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ABSTRACT

The Dynamic Analysis and Strategic Planning (DASP) Program Division of the Center for Occupational Education at North Carolina State University is concerned with its need for information about the actual operation of planning systems and the development of a planning and information system for vocational education. To this end a three part conference was held, involving practitioners of planning and planning experts, to generate information on the practice of planning and the problems and needs of planners. The report presents the data from the conferences in the form of a descriptive model, transactional in nature, of the planning process in a State agency for vocational education. Successively more detailed diagrams are used to illustrate the development of the model. The final diagram of the model is used as the organizational format for the report, with a detailed discussion of each segment, including verbatim comments from conference participants. The recommendations arising from the conference are summarized. Appendixes include the conference tasks and objectives, nine in number, the seven elements of planning, and a list of conference participants. (SA)

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STATE VOCATIONAL EDUCATION PLANNING

AN ASSESSMENT OF ISSUES AND PROBLEMS

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IN COLLABORATION WITH
THE AMERICAN VOCATIONAL ASSOCIATION

STATE VOCATIONAL EDUCATION PLANNING
AN ASSESSMENT OF ISSUES AND PROBLEMS

DASP PLANNING PAPER NO. 1
1974

THE PROGRAM

D. W. Drewes, DASP Program Director

Dynamic Analysis and Strategic Planning is a Program Division of the Center for Occupational Education at North Carolina State University. DASP is committed to a systematic application of information technology to the identification, collection and provision of management information for educational decision-makers. The program currently has two major thrusts: (1) research and development aimed at improved information technology and strategies for agency implementation, supported by an NIE contract; (2) application of the developed information technology to field generated problems, supported by independent contracts with interested client groups.

THE CENTER

John K. Coster, Director

The Center for Occupational Education is a research and development center established in 1965 under the provisions of the Vocational Education Act of 1963. The Center has been established as an integral unit within the School of Education at North Carolina State University, with cooperative efforts with the Schools of Agriculture and Life Sciences, Liberal Arts, and Physical and Mathematical Sciences. One of two such centers in the nation, the Center for Occupational Education has as its mission the provision, through research, development and related activities, of a continuing contribution to the improvement of occupational education. The major research and development programs of the Center focus on the relationship of occupational education to its context or environment. The social-ecological frame of reference for occupational education includes its relationship to regional economy, political influence, the power structure, and the employment or work environment.

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The School of Education at North Carolina State University offers baccalaureate, master's and doctoral degree programs in professional education and psychology. With a focus on human resource development, the School contains extensive teaching, research and demonstration capabilities. Emphasizing multidisciplinary effort, where appropriate, the School of Education has access to personnel and physical facilities throughout North Carolina State University.

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STATE VOCATIONAL EDUCATION PLANNING
AN ASSESSMENT OF ISSUES AND PROBLEMS

John E. S. Lawrence

J. K. Dane

Editors

Dynamic Analysis and Strategic Planning Program
Center for Occupational Education

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The research reported herein was conducted pursuant to a contract with the National Institute of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official National Institute of Education position or policy.

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Planning Paper No. 1

Dynamic Analysis and Strategic Planning Program
Center for Occupational Education
North Carolina State University
Raleigh

1974

Contract No: NE-C-00-3-0069

The typographical preparation of this report involved the generation of machine-readable text input into a computer editing, formating and printing program. A computer-controlled line printer produced the offset mats. This process marks the initial stage of an ongoing DASP Program project to develop automated techniques for text storage and retrieval, permitting optimal capabilities for editing and analysis. Future methods will employ automated computer typeset, thereby improving type image quality.

FOREWORD

The conference report presented in the following pages represents the first product of the Dynamic Analysis and Strategic Planning Program of the Center for Occupational Education to be published for public dissemination. There is always something special about a first report. Ideally, it should reflect the concerns and directions of the program and should establish a standard of quality for the program to maintain and exceed.

The report presented here is tangible proof of DASP's concern for the field of vocational education. By selecting as its first task the analysis of problems in the planning of vocational education, DASP demonstrates its serious intent to serve the field through attention to immediate and practical problems. The standard of quality established must ultimately be judged by the professionals this report is intended to serve. It is noteworthy that the final version of the report is the end product of an intensive and extensive review process. While the reviewers were in general favorably disposed toward the report, a philosophical split was apparent between those favoring a more pragmatic orientation to problem solution and those favoring a clear organization of the problems. In short, some people wanted practical solutions spelled out while others preferred to leave the question of solutions ultimately to those responsible. It is to the credit of the authors of the report that they could at least attempt the satisfaction of both these groups.

The Center extends its appreciation to all those who participated in the project. Messrs. Lawrence, Dane, and Drewes deserve special thanks for their role in the writing of the report, but many others also contributed their time and effort. We offer our grateful acknowledgement to Dr. Barclay Hudson of the School of Architecture and Urban Planning at the University of California, Los Angeles; Dr. Robert Seckendorf, Assistant Commissioner for Occupational Education of the State of New York; and Dr. Herbert Striner, President, University Research Corporation, Washington, D. C., for their excellent critical reviews. From the Center for Occupational Education, Dr. Robert Morgan's help in both planning and executing the conference proved invaluable: in addition, his questionnaire to state directors, shortly to be published in a separate report, served as an important input to the first

conference. Mr. Douglas Katz, Mr. William Ballenger, and Dr. Mollie Shook participated in the conceptualization of the project and participated in the conferences. Dr. Joseph Clary, Executive Director of the North Carolina State Advisory Council on Vocational Education gave freely of his time both in consulting with the authors of the report as well as providing a critical review of the draft report. Dean Carl J. Dolce and Dr. Joseph T. Nerden, both of North Carolina State University, contributed their services as reviewers of the report. In addition, thanks are due the staff of the Center for Occupational Education for their time and effort in the preparation of the final manuscript for publication. In particular, the services of Mrs. Evelyn Butler and Mrs. Faye Childers who punched the manuscript onto cards for computer processing are gratefully appreciated.

Finally, the role of the American Vocational Association in this project must be acknowledged. From the inception of the project Mr. Lowell Burkett, Executive Director of the AVA, Mr. Dean Griffin, and the entire AVA office staff gave unstintingly of their time and labor to help in the successful completion of the conferences. Besides offering the use of the Association's facilities in Washington, D. C., Mr. Burkett served most ably as chairman at each of the three conferences and contributed his time and energy as a reviewer of the draft report. Mr. Griffin undertook the responsibility for maintaining liaison between the Center and the AVA and in general paved the way for the smooth operation of the conferences. The AVA clerical staff, too, offered its assistance, even to the extent of giving up part of a holiday to help prepare materials for a conference. We cannot thank them enough for their efforts and their good offices, but it is sufficient to say that without their help the conferences could not have been carried on as planned.

John K. Coster
Director

PREFACE

Those who approach this report with the expectation that it contains prescribed solutions to contemporary problems in the planning of vocational education are bound to be disappointed. Some of the problems alluded to herein are technical in nature, with solution times probably dependent upon the amount of resources allocated to research. However the report identifies a larger class of questions related to issues of policy, which may prove more difficult to solve than those which admit primarily of technological solution over time.

We have only begun to break ground in the area of policy analysis and planned organizational change. Presently, decision-makers can, at best, only hope that their policy decisions will have the desired effects. The complex relationships obtaining in education are such that policies designed to have their impact in one area may also affect other areas in unforeseen ways. For instance, a federal mandate ordering the development of state mission statements for vocational education might have the effect of further fragmenting state education efforts by the unintentional promotion of separate missions for vocational and academic education. Furthermore, there is a decision-making hierarchy in vocational education extending from Congress to the local administrator, which facilitates the passage of mandates downwards, but usually makes it extremely difficult to institute policy changes from the bottom upwards. Thus, though the conferences identified a number of problems needing attention at the national level, the lack of well-defined mechanisms for instigating policy changes from below obstructed recommendation for the solution of these problems.

It is precisely this kind of question of policy which is of the greatest future interest to the staff of the DASP program. The models and the information-processing capability proposed for development within the program are directed toward the type of questions which have been unanswerable in the context of the present report; for example, what will be the anticipated effects on vocational education of alternative policy options? We have attempted to identify some of the problems and organize them in a framework which we hope will make them more amenable to understanding and ultimate solution. If it is true that the first step in the solution of any problem is the accurate

statement of the problem itself, perhaps we will have had a hand in contributing to the progress of vocational education.

Dr. John Coster has already acknowledged in his foreword those who assisted in the production and review of this report. The assessment and commentary provided by all these people was most helpful to our efforts. Whatever faults remain are our own responsibility.

Donald W. Drewes
Program Director

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STATE VOCATIONAL EDUCATION PLANNING
AN ASSESSMENT OF ISSUES AND PROBLEMS

INTRODUCTION

Although state planning for vocational education did not begin with the Vocational Education Act of 1963, it is certain that this Act, with its provisions for a state plan for vocational education as a prerequisite for obtaining federally allotted funds, provided an impetus for the further development of planning at the state level. In the decade which has passed since 1963, vocational educators and particularly vocational education administrators have become more deeply involved in planning. Also, in the same decade, the literature in planning has grown at an ever increasing pace. Yet an examination of the literature reveals that while there are innumerable articles describing the development of planning systems, the installation of planning systems, the pilot testing of planning systems, and the availability of planning systems, there is a serious shortage of information on how planning is actually working in situ. There is also a shortage of information on the success or failure of planning, though there is now sufficient information available to indicate that PPBS may not be fulfilling its early promise and that other planning systems are running aground on a rock called "lack of data."

There may be some excellent reasons for the shortage of information in these areas. Most obviously, if the systems are not working effectively, there may be relatively little interest in publicizing this fact. Alternatively, a system may have been installed, but those who were to use it simply ignored it in favor of using some other planning technique. Finally, planning in operation may be so detailed that it is not easily described. This last contention was supported by a comment from a state director of vocational education: "I would have a hell of a time trying to put on paper a total description of the process we go through from November to May. I would have to write a book." Unfortunately, those who are deeply engaged in the planning process seldom have the time to write detailed accounts of their activities.

Yet for those interested in the planning process, it is becoming increasingly necessary to learn about the actual operation of planning systems. There is ample evidence in the present criticism of vocational education, the demands for accountability, and the legislative mandates for increased planning that whatever planning systems are presently in use are not performing up to expectations. Many systems look good on paper, but it is only through an understanding of how these systems actually work out in practice that any progress will be made.

The hiatus in the literature noted above was of particular concern to the personnel of the Dynamic Analysis and Strategic Planning (DASP) Program Division of the Center for Occupational Education at North Carolina State University. DASP Program Division is concerned with the development of a planning and information system for vocational education. One of the features of the program is its special relationship to practitioners in vocational education planning. During the developmental period, DASP program staff are working in cooperation with state agencies for vocational education in an effort to develop a system which will have regard for the complexities of the planning process as they actually occur in practice.

It was within the context of this problem that personnel from the DASP program sought to develop a project which would both generate information regarding the planning process in practice and identify the problems and needs of planners. The purposes of this project would be: to gather data on the planning process, the problems in planning, and the needs of planners; to make recommendations regarding the problems and needs; and to make this information available to personnel in the area of vocational education planning. Such a project should have benefits for a number of different groups. First, it would constitute the beginning of an assessment of some of the problems and needs of planners in vocational education. In addition, the DASP program staff would gain insight into the practical side of planning, as it is currently practiced in state agencies for vocational education. Subsequently, the collection and organization of the information developed would have benefit to the field of vocational education through the presentation of that information in a manner which might be helpful to planners in vocational education in gaining insight into their own problems and the potential solutions.

Since literature on the planning process itself was not available, a literature review did not appear to be a productive means of obtaining the necessary information. However, it appeared that a conference involving both practitioners of planning from vocational education and other human development areas and planning experts from fields such as economics and urban planning could provide the necessary data. Such a conference could be used to generate information on the practice of planning and the problems and needs of planners, and through the meeting of practitioners and planning theorists, some suggestions could be generated toward the resolution of practical problems in planning.

When the decision was made to develop a project around a conference format, the American Vocational Association was contacted with regard to their interest in such a project. Mr. Lowell Burkett and the staff of the AVA were enthusiastic in their support of the endeavor, which could potentially provide them with a source of information for congressional testimony, and they offered the co-sponsorship of the American Vocational Association. In addition, the facilities of the AVA were offered as a site for the conference itself.

In order to maximize the output of information from the conference, it was decided to schedule three small working conferences to be held approximately two weeks apart. This procedure allowed project staff sufficient time between conferences to prepare material from each conference as input to the succeeding conference, as well as allowing successive conference participants to refine the output of preceding conferences. The material contained in the rest of this report represents the information generated through the conference.

Organization of the Report

The series of conferences generated a body of "raw data" in the form of more than 1000 pages of transcribed discussion. This information had not been generated in a vacuum, but rather around a set of tasks which guided the conferences. The tasks were designed to mold the emphasis of each succeeding conference to move from planning objectives to planning problems and finally to recommendations. The objective of this organization was to provide both an assessment of planning problems and a series of recommendations which could be collected into a set of guidelines for planners. Unfortunately, recommendations for solutions to problems and specific guidance on how such recommendations could be implemented were difficult to obtain. In fact, this is to be expected, since if planners knew the solutions, problems would not appear so persistently as problems. Therefore, those who approach this document as a "cookbook" to provide solutions to their planning problems are likely to be disappointed. Some recommendations can be offered, and, indeed, some suggestions for implementation are contained in the report. However, many problems have been identified for which there are no pat recommendations, and there are recommendations which may be very difficult to implement. What is contained in the report is a detailed analysis of current problems in planning and an assessment of the needs of planners in terms of those problems. As a document, it should have utility for anyone seeking firsthand, current information on

planning problems in vocational education. For the benefit of those interested in the actual organization of the conference and a brief record of the conference output arranged according to the task statements for conference participants, we have included this material in Appendix A.

The participants at the first conference developed a set of nine "objectives" of the planning process which was used in subsequent conferences to guide the discussion. Although nine objectives served as an excellent foundation for discussion, the conferences produced considerably more information than could be related to the objectives. In fact, this discovery during the course of the conferences was one of the significant facts revealed about the planning process. The nine objectives represented a good classical model of planning such as might be found in a textbook on planning. During discussions at the conferences, it became apparent that while these objectives might represent an ideal picture of planning, they were far too static to capture the practical aspects of the planning process. Indeed, the conference participants were well aware of the shortcomings of such a static description and continually stressed the interaction of various elements in the planning process, the non-linear nature of the process, and the difficulties of attempting to plan within such a structured, linear framework.

Some quotations from participants at the third conference in the series are particularly illuminating in this respect. "You are moving through several of these elements [objectives] in a concurrent fashion," noted one participant. "For all that you can say, you get done with one of them . . . before you get done with another" (936). "What we are talking about is true in all planning," said a state director. "You shuffle back and forth" (936). Finally, one participant expressed in detail the ideas which had been implicit in the statements of others.

> If you laid out any five books [on the scientific process] at random you would probably find that they had different steps. The method of scientific inquiry is an ongoing cyclical type of process [that] doesn't really have discrete elements. I think the planning process is the same thing. It is an ongoing effort that doesn't have really discrete elements . . . we flip-flop back and forth . . . when you get to a certain point, it not only makes the next step more likely to occur, it also enhances your knowledge about the one you just completed (946).

Since the nine objectives identified in the initial conference were not sufficient to provide an organizational format for reporting the data from the conferences, the project staff sought to develop a format which would be of sufficient richness to convey the information necessary. The requirements for such a format were stringent. First, the format would have to encompass all aspects of the planning process. The format would also have to be capable of conveying the non-linear nature of planning--perhaps best exemplified by noting that in a classical model the identification of goals precedes the search for data, while in the practical case, data have probably been acquired and stored long before a particular goal is specified. Finally, the format would have to convey the dynamic character of the planning process.

The organization selected for arranging and presenting the data in report form was derived from a model developed by Pruend and Jessup (Local Government and Strategic Choice; Tavistock Publications, London, 1969). This model is a description of the planning process derived from a four-year analysis of a local planning agency. In general, the model met the specifications required for presenting the material from the conferences; however, some modifications have been made in order to make it more descriptive of the processes of educational planning.

It must be emphasized at this point that this is a descriptive and not a normative model. The editors offer the model as a format for reporting data, not as a prescription for how a planning agency should operate. Through the medium of the model it has been possible to catalog and arrange an enormous amount of information relevant to planning and present that information in a manner convenient to the reader.

Since the data collected at the conferences were not to be organized in the format which was used for collection, several steps had to be undertaken to convert the "raw" data into a form suitable for presentation. Directly following the conference, project staff set to work on a first cut of the conference data. Typed transcripts of the conferences were read and all material deemed relevant to the conference purposes was underlined. This underlined material was then transferred to cards, producing an ordered collection of more than 1200 cards. Each card was identified by a sequence number and referenced the page number or numbers as well as the speakers. The entire collection of cards was then subjected to another cut which identified statements according to their relevancy for the organizational model and classified them as statements of either problems or

recommendations. The results of this operation were a number of discrete collections of cards containing data relevant to particular model sections. The editors of this report used these cards as the data set for each section of the report. Thus, the quotes or paraphrased remarks in the pages of this report represent actual statements made by conference participants. During the writing of the report, each time a quote was made, or paraphrased, the editor returned to the original transcribed text to determine the context of the remark. Every effort was made to ensure that the sense of the remark in context would be the same as its sense used in the report. In short, the quotes which appear in the paper have not been "bent" to fit the desires of the editors.

The presentation of the data from the conferences has involved an extensive use of quoted material. The use of this format has been deliberate. In part, the extensive quotations reflect the fact that the personal opinions of the conference participants constituted the "data" from which the editors drew in constructing the final report. Just as the citation of an author in a literature review provides identification of the source of an idea, the quotations in this report indicate that the statement is an opinion of one conference participant. In addition to this, the spontaneous, and often pungent, remarks of the participants convey both the flavor of the conference and the experiential nature of the participants' observations--the occasional sacrifice in grammar is repaid in freshness.

The editors would like to emphasize that the statements quoted in this report are the personal opinions of the conference participants. Material not identified by a citation represents the opinions or analysis of the editors of the report. Since the conference was directed toward planning at the state level, and participants were selected for their knowledge of planning at this level, the report is distinctly oriented toward planning at the state level. Furthermore, the conference and the report are both problem-oriented. The editors recognize there is much going on in planning today that is successful; however, the successful aspects of planning were not the subject of the conferences. The report should not be construed as a criticism of the planning process, but rather an attempt to identify planning problems as a necessary step in the improvement of the planning process.

In the pages immediately following, the paper's organizational model is introduced and described. Following this, the data from the conference are presented in detail. The presentation follows the organization of the model

exactly, and reproductions of the model are presented at the beginning of each chapter to aid in following the organization of the report. Each time a quote is used, or paraphrased, a page reference appears in parentheses directly following the quoted or paraphrased material. This reference refers to the page in the verbatim transcript of the conferences on which the quote occurs. For the record, copies of the verbatim transcripts are on file in the offices of both the American Vocational Association and the Center for Occupational Education. Questions regarding any quotation may be directed to either office. A list of participants in the conference is included as Appendix B of this report.

A MODEL FOR STATE LEVEL PLANNING FOR VOCATIONAL EDUCATION

The presentation of the data from the conference is organized into the format of a descriptive model of the planning process in a state agency for vocational education patterned after a model developed by Freund and Jessup (1969 op. cit.) The boundaries of the model are very distinct and should be recognized as encompassing only the planning activities of a state agency for vocational education. The environment specified in the model is made up of only those parts of the total environment that are relevant to the planning process in such an agency.

The model is transactional in nature. That is, the system described is in a constant state of exchange with the environment, a process which both affects and is affected by the environment. It is this relationship of exchange which is of prime importance to the understanding of the model. Planning, particularly planning in education, does not simply accept input from the environment, process that input, and output it back into the environment. The output of planning has an effect on the environment, and this effect must be considered again by the very system which produced the output. Thus, there is a cyclical process operating in which the actions of planners influence those circumstances toward which planning is directed, and the effects of planning are continually being reintroduced to the planner as environmental changes for him to take into account in his next planning cycle. The crux of this theoretical position rests in the view of the planning process as dynamic and continual, and it implies the need for a regular flow of information between the planning system and its associated environment.

While much of the discussion in this section is abstract, since the model is introduced in detailed fashion, knowledge of the relationship between the various components of the model will aid in understanding later organization of the conference data into a comprehensive picture of the state vocational education planning process.

The Model

In its external relations, a state agency for vocational education functions as both a responder and a provider. It responds to externally generated situations by providing resources, information and services so as to alter the initiating situation. The situation may be any outstanding environmental event that has potential significance for departmental action. (See Figure 1 "The

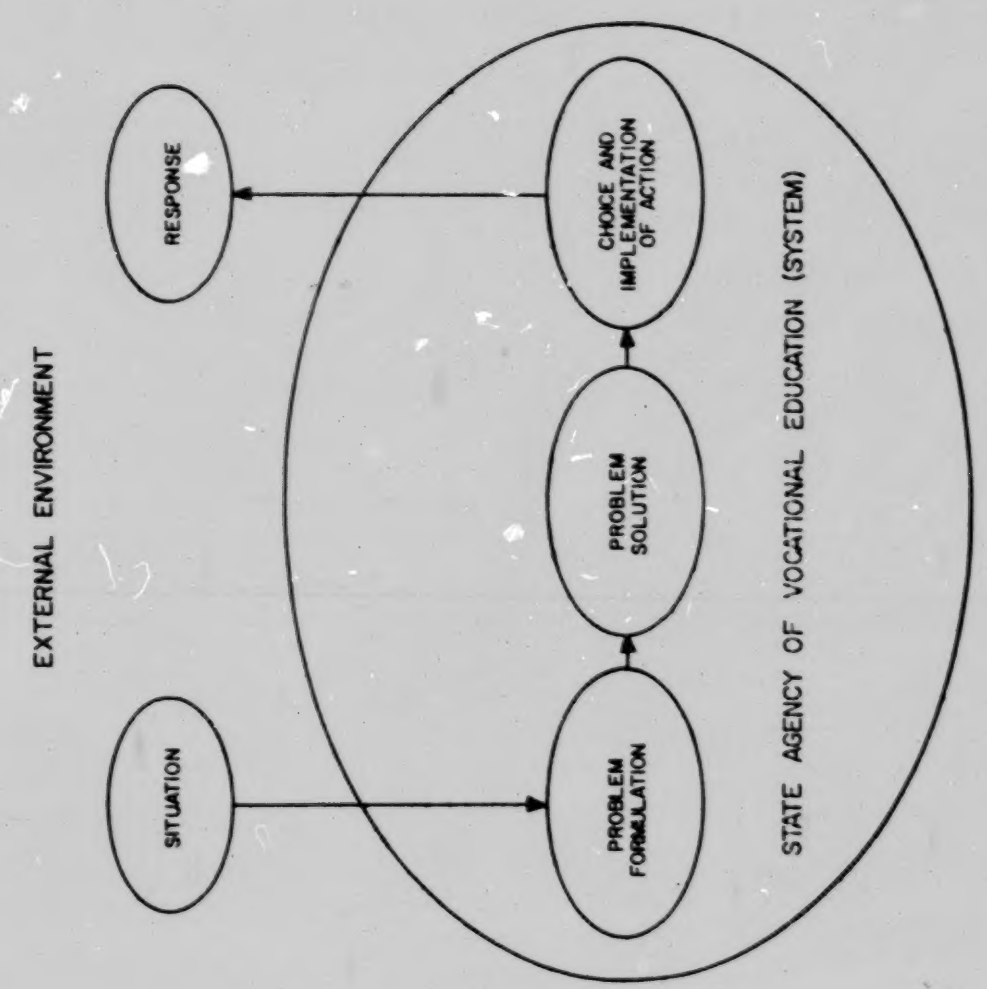

FIGURE 1. THE BASIC MODEL

"Basic Model".) Examples of such events might include requests, mandates, orders, charges, warnings, challenges or threats from external sources. State departments of vocational education respond to such situations by:

1. collecting and providing information and data pertaining to educational technology; resource availability; promotion, development and operation of vocational education programs, services and activities;

2. coordinating program activities through provision of policy guidelines, standards, program planning guides, recommendations as to evaluative criteria and procedures, advice as to operation of present programs and evaluative review of new programs; and

3. facilitating program planning, development and operation by commitment, acquisition and allocation of resources, management of professional personnel development and promotion of new sources of public support.

The basic framework of the model, therefore, centers on the notion of a continuing exchange of materials, information and influence between a state agency for vocational education, hereafter referred to as the system, and its environment. The specific exchange, called a transaction (indicated by arrows in the diagram in Figure 1), is initiated by a situation which creates a felt need (problem) to which the system responds by a choice of an appropriate response. As a prerequisite to system response to a problem, the situation must first be translated into a requirement for system action. That is, the situation must be perceived by an internal problem-sensing mechanism alert to environmental pressures. Since a department of vocational education experiences many situations, not all can be accorded equal attention. Thus, an attention-focusing mechanism is required to screen those situations of sufficient priority to warrant recognition as problems worthy of commitment to obtain a solution. Once a situation has been (1) "sensed" and (2) "attended to," and thus legitimized as a problem that must be solved, the search for problem solution requires decision mechanisms that can generate a series of feasible action alternatives, compare those alternatives and select a plan of action. Once the plan of action is selected, the choice is implemented through the output of a response designed to execute some desired environmental changes. The situation is thus

altered, thereby completing the transaction.

The fundamental process whereby a department of vocational education transacts with its environment to produce a change is shown in Figure 1. The interaction between the output of the system and the degree of economic and social support forthcoming from the environment produces what is called an outcome (Figure 2). An outcome may be something explicit such as the number and kind of students currently served by local programs, the number of vocational education students employed in related jobs within 60 days of program termination, or the number of students who exited from the secondary schools within a specified time period. It might also be something a good deal less explicit, such as the current level of career awareness in sixth-grade students, the quality of present course offerings, the achievement level of program enrollees, or parental attitudes concerning career education. The output of the state agency may take the form of formal plans, written or verbal commitments to certain courses of action, or directives to local education agencies.

A particular outcome is only partially dependent upon the output of a state department of vocational education. The environmental factors that interact with system output to facilitate or inhibit the desired effects are collectively referred to as social and economic support and include the combined effects of: Congress; state legislatures; state and local councils, boards, agencies and associations; federal and state agencies; technological state-of-the-art; economic and social conditions; state and local education agencies; business and industrial organization; private interest groups; and the demographic and attributional characteristics of user populations.

In addition to supporting system outputs to produce outcomes with specific characteristics, the environment imposes social and economic demands as exemplified by: federal and state statutory requirements; federal and state agency regulations; state educational agency policies, rules and regulations; federal and state agency needs; societal values and expectations; manpower requirements; and population needs. These environmental demands interact with outcomes to produce a situation. That is to say, situations are created by the joint effects of environmental demands and outcomes. Thus, the effect of system output on the original situation is moderated by the dual effects of social and economic support and demand. The interrelationships of these factors are depicted in Figure 2. In the sense that a state department of vocational education responds to external situations by a choice of

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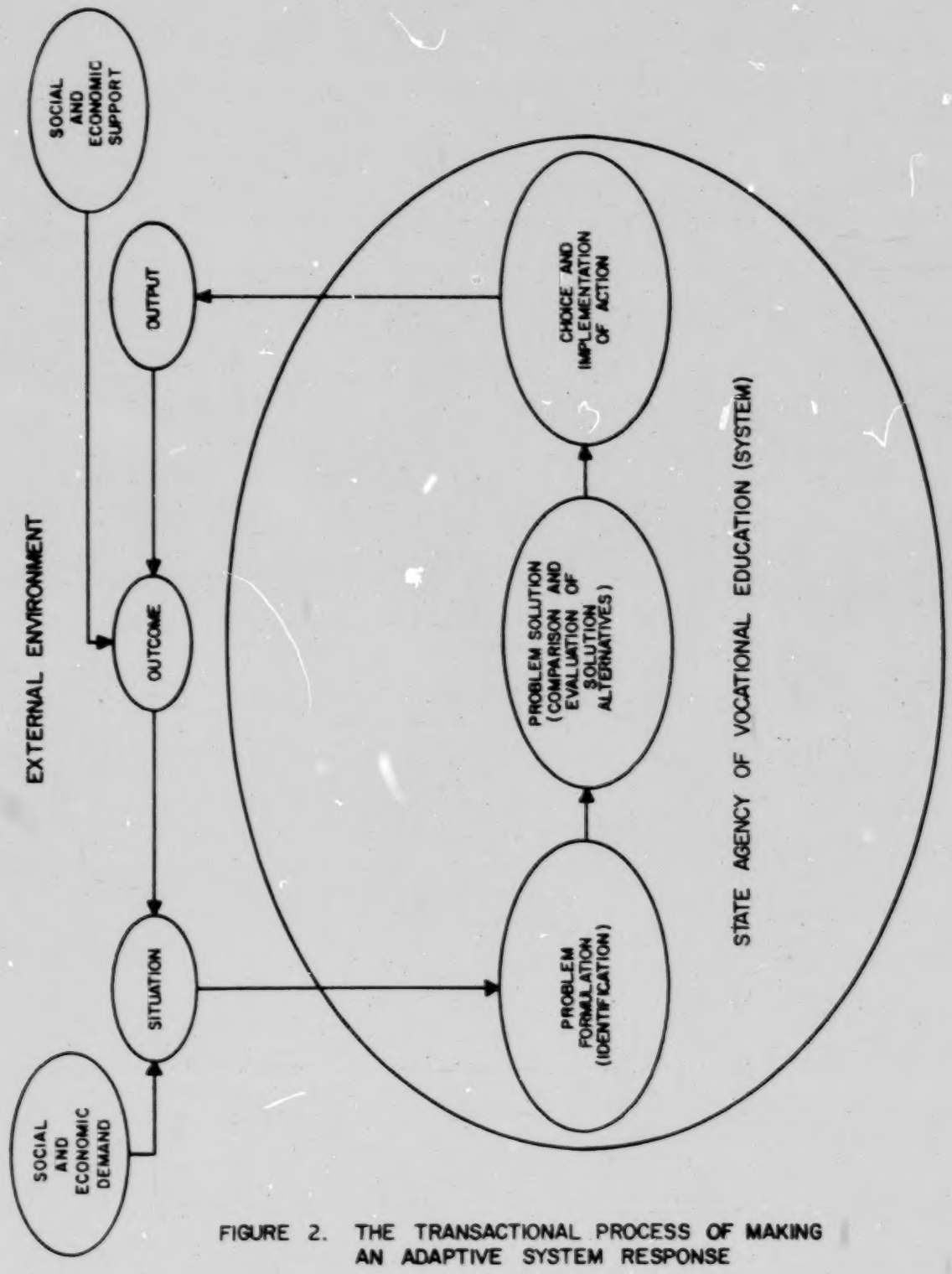


FIGURE 2. THE TRANSACTIONAL PROCESS OF MAKING AN ADAPTIVE SYSTEM RESPONSE

action, implemented as an external output, which seeks to modify the initial situation, there can be said to be a transactional linkage between system and environment. System action can thus be described as a continuing sequence of transactional linkages wherein the system seeks to make adaptive responses by providing resources, information and materials to alter environmentally initiated situations.

As shown in Figure 2, the process of making an adaptive response consists of (1) identification of the problem, (2) the comparison and evaluation of solution alternatives, and (3) the commitment of resources to implement the chosen course of action. The process, however, is neither as linear nor as rationally tidy as the above formulation would imply. Problem identification includes both the initial sensing of the problem and the decision that the system expend resources by attending to it. The whole identification process therefore depends in part on the "slack", or new resources available for allocation to whatever unit is assigned responsibility for implementing the solution, the demand for resource allocation to competing problems, the biases of the unit assigned problem responsibility, and the relative autonomy granted the responsible unit. While problems are, in some sense, seldom "solved", but more usually "alleviated", the term "problem solution" is used as expressive of the ultimate aim of this part of the process. The search for problem solution involves the selection of a viable alternative from a set of feasible alternatives. System policies limit the choice of alternatives by specifying preferred classes or types of problems. In this manner, policies serve to increase efficiency by reducing the number of situations to be identified and/or by restricting the permissible alternatives. In situations which cannot easily be related to existing policies, problem solution depends more directly on personnel understanding of the system's mission, goals and objectives and an appreciation of the external and internal decision constraints.

In contrast to the ideals of classical organizational rationality, the chosen problem solution may not be the "best" option from a set of all possible considerations. Rather, the alternatives chosen are constrained by pragmatic considerations of aspiration, budget, operational procedures, decision rules, personalities, informal organizational structure and political imperatives. The chosen solution often represents a compromise between the ideal mission and goal achievement and the necessary costs of system change. Quite frequently, the procedures for implementing and achieving desired outputs are obscure. Instead of a neat, orderly arrangement of ends stated as

desired outputs and means of implementing ends established by strict rationality, organizational problem-solving is an admixture of adaptive rationality, rule of thumb, intuition, institutionalized bias, conflicting vested interests, backroom politics, and "seat-of-the-pants" judgment. These intangibles, together with formal constraints represented by missions, goals, objectives and agency policy, are collectivly termed the context of operations.

The interactive impact of the context on the process of problem-solving is graphically illustrated in Figure 3. The two-headed arrows linking the context to the problem-solving process indicate that the process is influenced by and in turn influences the context or ground. Thus, solutions to vocational education problems are forged in an interactive process whereby rational choice is tempered with moral and pragmatic considerations and the collective organizational intelligence altered by evolving problem experience.

Adaptive system response to an environmental situation so as to ensure a desired future change requires perfect knowledge of present and future environmental demands and support. Absence of perfect knowledge creates several classes of uncertainty, e.g., uncertainty within the system about the nature and kind of present and future environmental support, uncertainty about the nature and kind of present and future environmental demands, uncertainty about the nature and kind of present outcomes, and uncertainty about the effects that present system responses might have upon future solution options to related problem areas. Uncertainties about social and economic support result from insufficient information regarding such factors as existing and future distributions of employment opportunities, educational opportunities, capabilities of local educational delivery systems to produce a quality product, the relation between educational achievement and job performance, work as a social institution, characteristics of target populations, present and future resource availability, and the relationship between educational activities and skills acquisition. Uncertainties about social and economic demands result from insufficient information regarding such factors as job entry requirements, federal policy intentions regarding vocational education, state budgetary priorities, population needs, public expectations as to the role of vocational education, and local vocational education product requirements. Uncertainties about present and past educational outcomes stem from incomplete information regarding such factors as program costs and benefits, employment and job satisfaction of program graduates, student utilization of educational resources, educational achievement of program terminators,

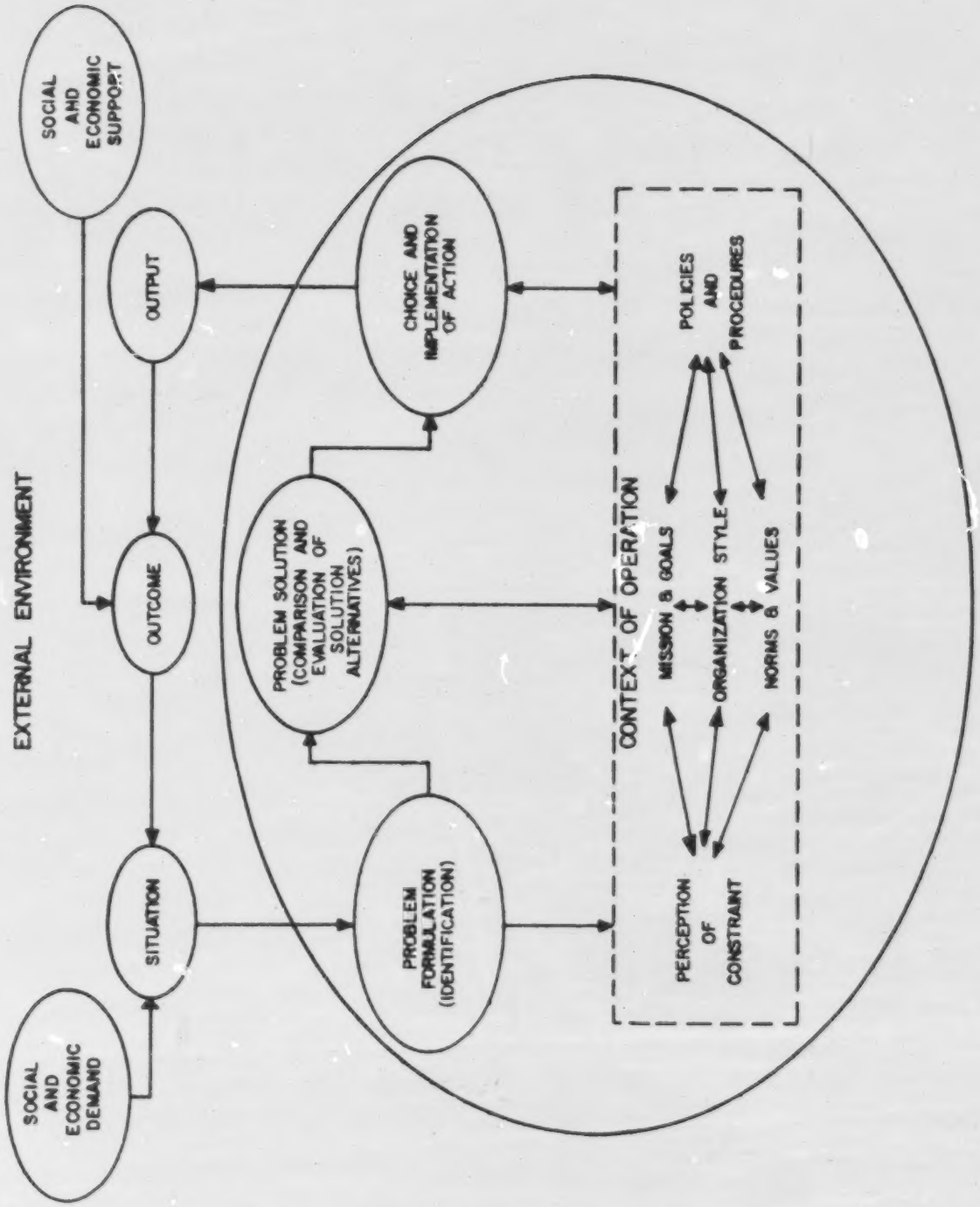


FIGURE 3. THE CONTEXT OF OPERATION

and student satisfaction with educational experience. Uncertainty about the effect of current problem solutions on future options includes, for example, doubts concerning the future effects on program options of current choices of facilities construction, the effect of current precedents affecting decisions on future operational freedom, and the effects that current resource allocation to specific program areas will have on future program options.

The system seeks to reduce uncertainty by the development of mechanisms for the collection and retrieval of information. Information may range from "hard" empirical data to the "soft" data of subjective appraisal, judgment and opinion. Reduction of uncertainties pertaining to environmental support is typically achieved by formal procedures for system identification, collation and interpretation of anecdotal data, survey data and longitudinal data, field-derived experimental data and laboratory-derived experimental data. Uncertainty concerning the nature and kind of educational outcome is reduced by historical data provided by expanded program accounting systems, including student attitude and achievement measures, and by student follow-up systems. Information about environmental demands depends upon the establishment of formal and informal communication channels with relevant environmental sources. It should be noted that the mere gathering of information, without proper and predetermined methods for its selection and analysis, may itself aggravate existing uncertainty, and the system may discover a need to pare down or weed out irrelevant or redundant data.

Mechanisms for the reduction of uncertainty concerning the effects of proposed solution options on related problem areas include all processes wherein the system comes to regard a specific problem in the context of a wider problem definition. Generally, the wider problem definition requires that the system anticipate future economic and social support and demand. The system must thus have a model capable of generating predictions regarding the expected future outcomes resulting from present actions. Mechanisms for the collection and retrieval of historical and judgmental data together with models for prediction of the future consequences of internal system action constitute the agency information system. The agency information system is not always a formal structure. Indeed, very often there are aspects of agency information which could not be included in a formal structure, for example, personal knowledge, professional judgment, or the accumulated wisdom of ten years of on-the-job experience. Rather, the agency information system may well be a blend of formal information

systems of varying degrees of complexity and sophistication, and informal systems of personal and professional knowledge. The linkage of this system of information with the problem-solving model of Figure 3 is shown in Figure 4.

Figure 4 presents the model used as the organization format for the information presented in the remainder of this report. In the sections following, each segment will be discussed in as much detail as the data from the conference allow. As each portion of the model becomes the subject of a section in this paper, it will be graphically displayed within the section heading. Hopefully, this will serve to illustrate the interrelationships of the various components in light of the model as a whole, and will aid in conveying the complex and transactional nature of the planning process.

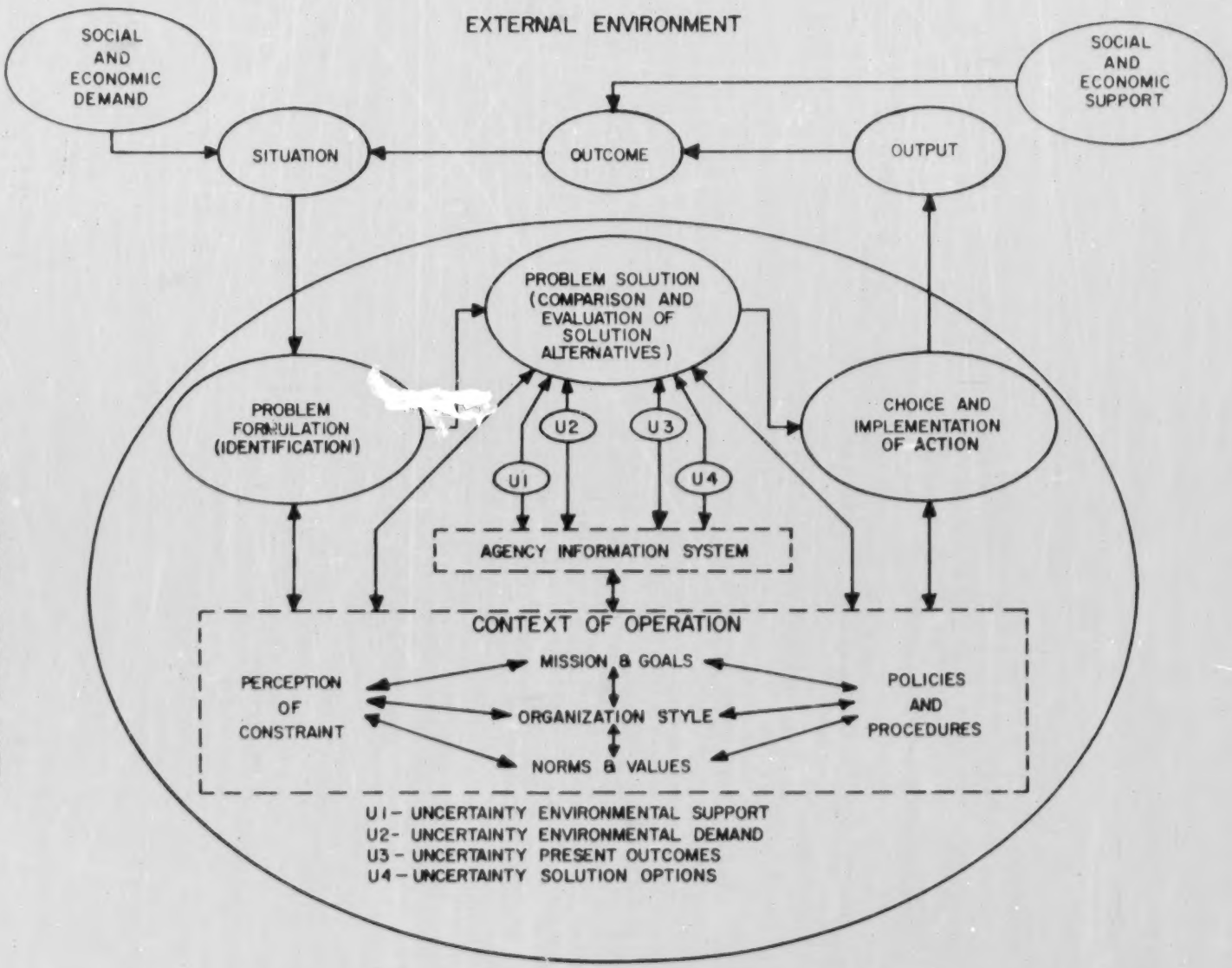
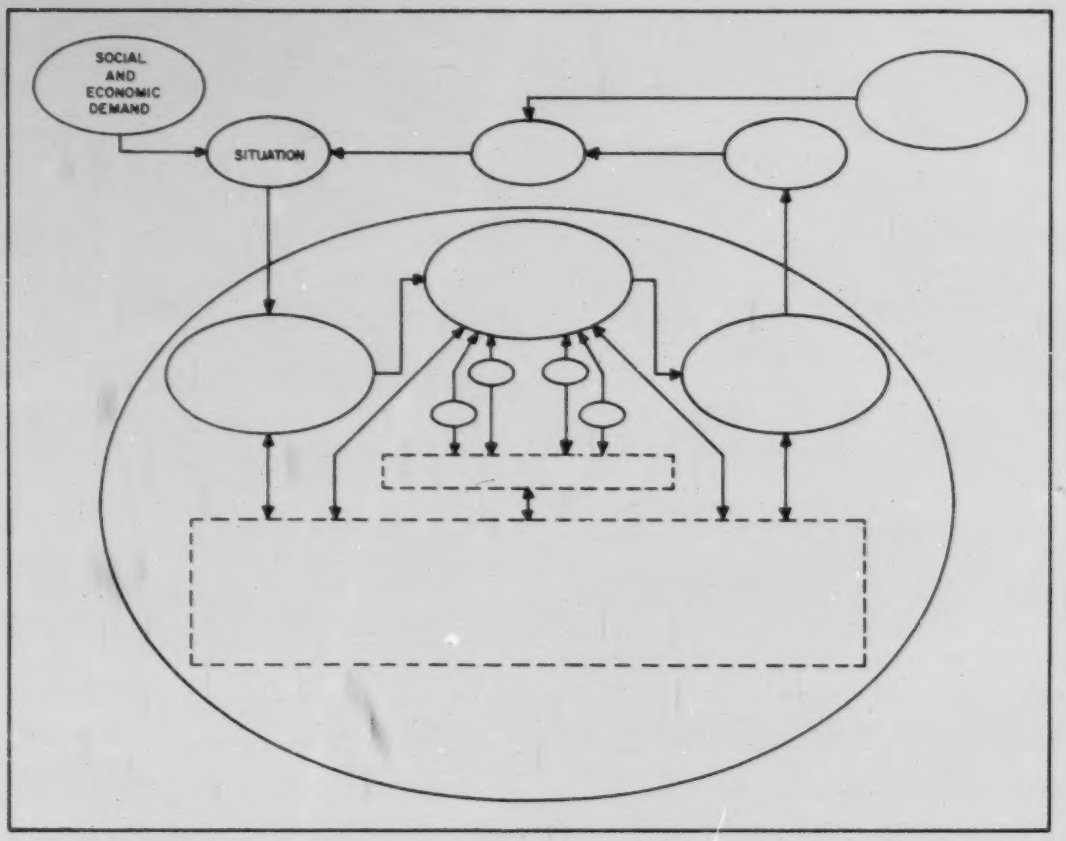


FIGURE 4. A DESCRIPTIVE PLANNING MODEL

SOCIAL AND ECONOMIC DEMAND



The scope of social and economic demand encompasses concepts as nebulous as social values and expectations, and as specific as federal statutes. As it relates to vocational education, this demand may be viewed as stemming from all levels of society--from the local to the national. However, the general orientation of the conferences was toward demand at the national level. That is, participants were principally interested in the social and economic demand expressed in federal legislative and bureaucratic statements. The orientation itself would appear to indicate that a prime area of concern for vocational educators is the federal level of demand, for it was here that many problems were felt.

Social and economic demand springs from the collective efforts of society to meet social goals. Goals, according to one conference participant," . . . always represent a moment in time and every set of goals will reflect what the society at that time decides are the goals through the legislature" (321). The implications are (1) that social goals are a product of the time and thus subject to change and (2) that social goals are established by the legislative process.

Social goals in the last decade were seen as changing with the thrust being more "in the area of social benefits, than cost benefits" (579). Emphasis on the disadvantaged and handicapped was accompanied by a "significant change in the investments" (599) with a resulting change in educational efforts "from skills and knowledge to employability" (601).

The emphasis on employability cannot ignore that certain jobs are more critical than others from the point of view of the state and the national economy. The fact that being a "lousy accountant [may be] better than . . . a good plumber" (629) is the result of a social value system that places more importance on a college education than on a worthwhile job which does not require a degree.

Further discussion of goals mandated through federal legislation emphasized the discrepancies between congressional intent and actions. Congress was characterized as having problems in deciding whether they "want economic growth or a better distribution of income" (83-84). Furthermore, the intent as expressed in the statement of purpose of the Acts differed from the intent as expressed by the level of appropriations. As one participant indicated, "You have goals stated in language and goals that are stated in dollars. The goals in language say one thing, the goals in dollars say another" (663). Discrepancies were in part rationalized by the recognition that it is difficult and expensive to deal with small minority groups where there may likely be some questions about the effectiveness of training. Not only were the discrepancies justified economically, but "politically it makes a lot of sense not to spend a lot of money on a few people that are hard to place. Socially, you may say it is an important thing to do; but, it is not rewarding" (580). Political and economic rationality notwithstanding, the conference recognized that there was a problem of whether society wished to admit that a group of people cannot be trained and should be put on welfare.

Although providing a mandated intent, the federal laws have not been translated directly into an objective statement of national policy. Several conferees were adamant in their belief that there is no national plan for vocational education. While Congress passes laws that reflect the intent and national mission through legislation, the goals as specified in the legislation have not been translated to objectives, nor populations specified, nor dollars tied to the goals and populations. As one state director put it: "They [federal government] have yet to come up with a plan saying here is the population that needs services; also, here is the priority for investing it, and here is the cost, if you are going to do it" (603). The conference sensed, instead, a contemplated move away from a national responsibility for what vocational education should be, as witnessed by general and specific revenue-sharing proposals.

Not all blame for lack of direction was laid at the door of Congress, however. Congress was regarded as being quite powerless to require information from executive agencies, let alone to control their administrative behavior. As one congressional aide stated, "I talked to the Office of Education in 1969 . . . I told them exactly what kind of data I wanted, and it didn't come out" (279). His dissatisfaction was illustrated by his further remark that ". . . if they are not going to be responsive, the next step is to write in legislation of some kind" (279).

The diffusion of the intent of federal legislation was attributed in part to the separation of powers between the legislative and executive branches. Once a law is enacted, its administration becomes the responsibility of the executive branch and guidelines produced by the agency may deviate considerably from the original intent. The problem of diffusion of intent is further accentuated by the fact that no single agency or governmental unit is responsible for vocational education. As was noted by the conference, there are some 30 or more vocational education packages and not all are handled by the Office of Education. One state director lamenting the lack of communication between Congress and the Office of Education complained: "We spin our wheels getting some data we feel is useless" (278). The intent of the legislation is further diluted by the establishment of intermediary regional offices. Little communication between regional offices and the Office of Education was observed with "very little go between as far as state planners are concerned between the regions and the U. S. Office of Education" (292).

Changes in agency policies and personnel were seen as exerting a disruptive effect at the state level. The extent of the effect of policy changes on agency demands was indicated by the comment, "with a new concept as to what should be done in vocational education, you get one hell of a different approach" (556-557). A state director commenting on state planning believed that "the biggest deficiency of all is the stability of the staff and . . . of the goals, at the national level, that must be reflected in the state planning" (545). He went on to note that "everytime they change people, sometimes twice in one person's term, they change the organizational structure in which you operate" (545). The impact of such changing demands is that "as long as you are living day to day with changing signals, you cannot plan" (368).

The effect of such changes is to produce discontinuity in the provision of vocational education. In the words of one conference member, "I would like to see a sustained demand for the product of the vocational education system so that we did not have the crazy starts and stops and breaks" (504). The very fact that vocational education is subject to starts, stops and reductions increases the probability of psychological reactance in elements of a vocational educational system under external pressure.

Social and economic demands at the state and local level did not receive the detailed treatment accorded national demand. The lack of attention to local demand probably reflects the fact that there are fewer problems in state agencies in dealing with the assessment of this demand. Routine handling of forms and proposals within states conveys quantities of information regarding local conditions and the demands which exist there. Proposals, for instance, generally provide sections for justification of the proposed program or facility in terms of local need. Local demand information in this form is assimilated readily into the planning system and passes through it with an ease born of long familiarity. The neglect in attention to state demand probably reflects similar factors of relative ease and familiarity in the handling of information about demand. However, there was evidence of concern in some states that education might not be responding to this demand appropriately. Specifically, the governor of at least one state has suggested the appointment of an Inspector-General for Education to oversee how the money is being spent.

Two other areas of social and economic demand were accorded brief treatment. Job requirements in industry represent one aspect of demand, and the charge was leveled that "vocational education is irresponsible if it doesn't

get into job analysis" (615). This comment represented only one of a possible class of environmental concerns related to the private sector. Finally, some attention was paid to the demands of students. Young people were described as the "ultimate clientele" for education, and the discussion centered around the relevance of the teaching to the benefits of the student, concluding finally with a question: "What are we doing for these young people?" (191-192).

Recommendations

The central problem for state planning in the area labelled environmental demand is the imprecision with which the demand is perceived by the states. This was reflected time and again during the conferences by participants who in one way or another expressed the same complaint: "We don't know from time to time what our role is" (776). This uncertainty takes a toll throughout the planning process in part because vocational educators do not know exactly how to respond to environmental situations they cannot define precisely, and in part because their time is spent in attempts to define what they should be responding to rather than planning the response.

Recommendations to alleviate this problem took two forms. First, there were suggestions that an attempt be made to obtain or generate a better statement of a national mission for vocational education (731). This notion was supported in several forms including such ideas as asking "the Council of Economic Advisors to give some idea of occupational outlets and of the national objectives, in terms of manpower composition, that would give [the vocational educator] guidance as to what his priorities might be" (597). The other suggestion, and the one more broadly accepted, was to seek the establishment of a national manpower policy. In particular, as one participant noted, "we need a manpower policy with a clear-cut statement of the role of education" (758). The rationale for the development of a national manpower policy, as opposed to a policy which would cover simply vocational education, rested in the feeling that vocational education was a partner in the national manpower goal of full employment, but not the sole responsible agency.

> . . . formal education, as we see it in public vocational education, is just part of the ball game. We need [the Department of] Labor to sit down with us, [the Department of] Commerce to sit down with us, we need other [groups] to sit down to form a commission . . . to try to identify

> the major components that go into manpower needs, manpower training needs, of the country and then try to divide it up. . . . Public education . . . expertise really falls in handling these kinds of things, they should be responsible for it (765).

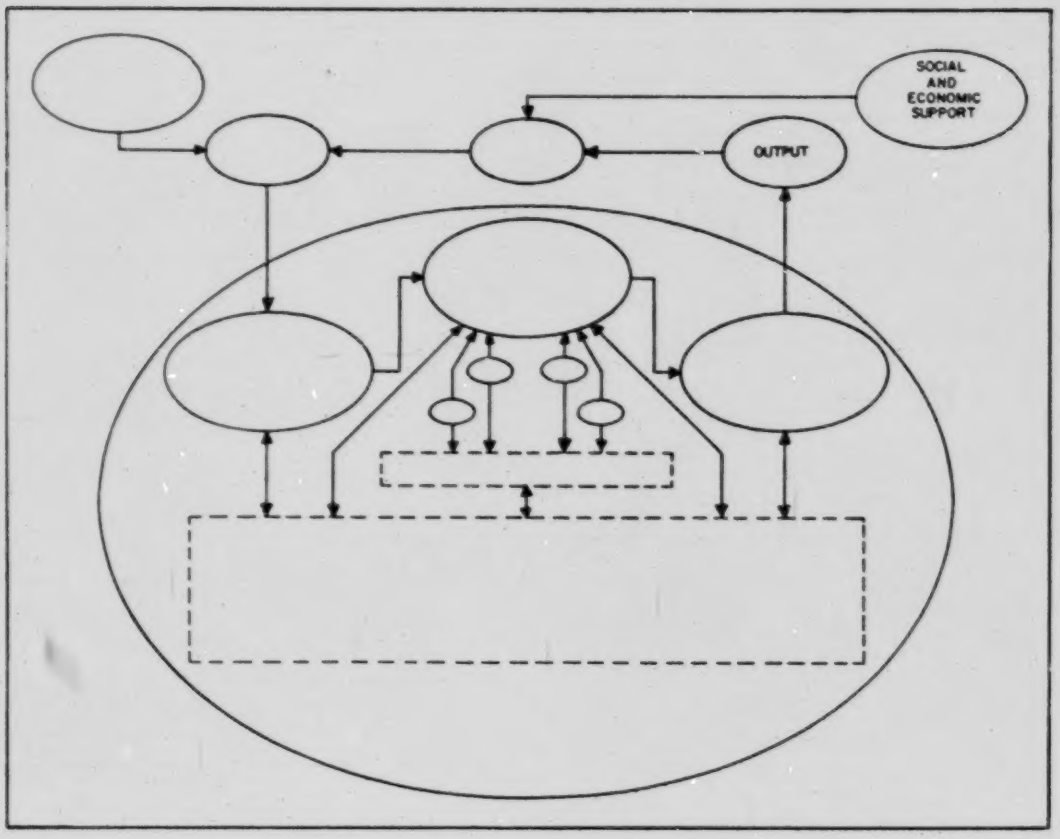
The establishment of a national manpower policy might then lead to the ability of individual states to adopt manpower policies of their own, consistent with the national policy (752-753). The recommendation from the conference participants was summarized excellently as follows:

> One, establish a comprehensive national manpower development policy with a clear definition of roles and responsibilities. Two, establish a clearly defined planning process for implementing the comprehensive national manpower development policy. And, three, establish the guidelines to be followed in the appropriation [for] a comprehensive national manpower development plan. (A) Under that, clearly identify the components to be included in the plan; and (B) clearly identify the roles and responsibilities related to each component (778-779).

With a recommendation made to establish a national manpower policy, the conferees addressed themselves to the problem of how such a policy could be created. A suggestior that the task be given to an existing group, such as the Federal Committee on Education which involves 26 governmental agencies concerned with education, was objected to on the grounds that "as long as you put together the people that already have a piece of the action, they won't give up any part of it" (767). The alternative suggested was the establishment of an independent body of people appointed by the President of the United States. Such a body would set up manpower policy and spell out roles (767). Some way would also have to be developed to get both the President and Congress to "endorse such a panel so that they will listen to their recommendations when they come out" (768). The solution to this problem, as well as that of providing the necessary documentation to indicate the extent of the need for such a committee, might be found in asking a number of independent groups such as the National Manufacturers' Association, the U. S. Chamber of Commerce, organized labor, and the Vocational Education Advisory Council to call upon the President to institute a commission (777). It was felt that the American Vocational Association, which has liaison with these groups, could help generate this action (777).

Another problem noted by the conference participants may be amenable to solution through the cooperation of private agencies such as the American Vocational Association and the federal legislators and administrators. This problem relates to the communication between the federal level represented by the U. S. Office of Education and the states, and to the problems presented by data requirements to satisfy federal agencies. In this area it is recommended that the AVA and interested persons or groups call to the attention of the Congress the difficulties entailed in the acquisition of data and enjoin Congress to work with the Office of Education to develop a body of data specifications which will be suitable to both Congress and the federal bureaucracy. This body of specifications should then be made available to the states so that they can plan in advance for the routine acquisition of data for federal purposes.

SOCIAL AND ECONOMIC SUPPORT



It is axiomatic that state departments of vocational education can not achieve desired results independently of the social and economic environmental influence. The multitude of external events, factors and conditions that interact with system action to produce a joint result are collected in the concept of social and economic support. Such support can be passive, as in the case of public acceptance of program innovations, or active, as in the resistance to system change by strikes or failures to pass local bond referenda.

A prime economic environment for vocational education is the marketplace. Its pervasive influence on vocational

education is reflected by the comment, "You can give an awful lot of money to some places and nothing happens as a result . . . the kids don't get a job" (255). Yet the idealistic goal of career education that every student exit with a marketable skill seems to ignore the fact that attainment of this goal is dependent upon there being a job available for every student. Lack of support in terms of employment opportunities either leaves program graduates unemployed or forces them to seek employment in fields often unrelated to program content. Vocational agriculture was offered as a specific example of the latter case, where declining opportunities decrease program-related employment.

Public support of vocational education is also influenced by the perceived marketability of vocational education versus higher education. "If going to college means a superior chance of getting a job, because of the way employers behave, you are going to have a hard time convincing the parents of kids that you should cut down in the college [preparatory] and change to vocational education" (622). In a time when all of education is coming under fire regarding the relationship of education to success in the adult world, vocational educators are feeling the pinch to an even greater degree. "Vocational education is always on the defensive . . . ." (798), as one state director put it. "In vocational education they are coming to you and saying how many jobs, how much money do they earn? They never say prove that the general education or college grad curriculum high school student really did well" (798). Perhaps this stems from the fact that vocational educators are more specific with regard to the purpose which the education they are providing is supposed to serve. Whatever the reasons, vocational educators are asked to provide information about the social and economic support for their educational product. At present, relatively few states appear to be able to provide this information at all well.

The wisdom of the assumption of unilateral educational responsibility for employment was questioned by one conferee who inquired, "Why do you [discussant] take the burden of full employment on vocational education?" (1031). He went on to note that it does not necessarily follow that vocational education can serve to reduce unemployment rates. The obvious solution is for vocational education to "train people in such a way . . . that they are going to be better able to get jobs" (1034). The problem is that little is known about the "relationship between training and jobs," and, furthermore, "it is not exactly clear what you do in order to find out" (1034). Training for jobs, even if the jobs do exist, does not contribute to full employment "if

the people who could hire them don't really want to hire them" (1034). Hiring restrictions, job quotas and the difficulty of getting trained students past union examinations all attest to the power of economic and social environment to shape employment outcomes.

One of the serious problems influencing federal support for vocational education was perceived to center around the

> . . . interpretation of what vocational education is really all about, to the policy-maker, to the people making decisions as to where to allocate funds, what we are talking about in terms of legislation, what the program is all about (741).

There was express complaint that not all personnel in the Office of Education had a comprehension of vocational education as extending beyond "preparatory training at the secondary level" (734). Federal support in general was seen as agency-specific with "no articulation between or among agencies at any level, to speak of" (700). Federal guidelines for planning were regarded as "not necessarily in conformity with the original intent of planning for use by the people who have to operate them" (130). Lack of federal support for state-level planning was evidenced by the expected non-availability of Title V ESEA planning resources. Federal requests for plans for indirect cost were seen as more for the earmarking of funds and for keeping systems from putting too much in administration than for support of the planning process.

The role of the state in the planning process received considerable attention. A former state director commented:

> When you have a governor that comes in and changes administrative organization and transfers postsecondary vocational education to a community college system where in the past it had been with the state board of education, that makes a big difference in the plan (558).

As with federal agencies, poor communication between state agencies resulted in "separateness of planning" of various state educational agencies. Although perhaps overstated for emphasis, the comprehensiveness of the communication gap was evidenced by the comment that there was "no articulation between local educational agencies, state agencies, regional offices and federal-level planning" (700).

The isolation of vocational education, as evidenced by the failure of "a lot of states" to include vocational

education as a mission of education, was regarded as a serious impediment (15). The difficulty is compounded in that ". . . it's quite difficult when you look at mission statements in vocational education to see how they relate [to] the overall educational mission statement" (683). Education is presented to the public as an integrated social function in competition for state support yet "our separation within vocational or among vocational and all other educational enterprises is a thing that is really plaguing us" (961-962). Relationships between state departments of education, institutions of higher education and local education agencies were evaluated by one state director as ". . . going further apart rather than firming up good relationships" (1061). Deterioration of local educational agency support was affirmed by another state director who reported that "over the last ten years what has evolved is that a third of the schools have almost no industrial arts programs. Principals have let it drop" (980).

Support provided by state advisory councils was also not above criticism. There was a recurring charge of lack of communication between state directors and their advisory councils. Advisory councils were characterized as being generally too negative in their appraisal and concerned mainly with the discrepancies between things planned and things done, rather than things that should be done. Lack of involvement of "enough representative kinds of people" in advisory councils and other equivalent agencies precluded making "involvement actually work like it ought to" (720). Involvement in order to work was seen to require "a relationship, federal, state, local, so that each knows what its role is and each knows what its responsibilities are" (721).

That such an integrative functional relationship is presently lacking in American education was unanimously affirmed by the conference. A significant amount of the blame was attributed to federal inability to formulate a clearly interpretable national mission for education and to act in support of that mission. State directors felt that they "ought not to be in April talking about what we should have been doing last July. . . . If they are telling us to plan five years down the road, then there should be some kind of national commitment to support a five-year projected plan" (729). Dissatisfaction was expressed with the system of resource appropriation--a support system in which ". . . we have to wait until the year is eight months along before we know where we stand on our ability to support a plan on which they have done everything . . . except the appropriations" (731).

Although seen as stemming primarily from a lack of a definitive national mission statement for vocational education, the problem of "what vocational education is and who do we serve" (740) has implications for support across many facets of the social and economic environment. One state director wondered how to educate Congress, Office of Management and Budget, Office of Education, Department of Labor and other vaguely defined decision-makers who by their budgetary decisions knowingly or unknowingly chart the course of vocational education (737). Rightly or wrongly, the mission of vocational education is implied by Congress to be confined to secondary programs and actually "when we look at it in terms of money, look in terms of people, that apparently is the mission that vocational education has" (738).

Since many agencies share in the function of helping people to become employed, support for vocational education becomes fractionated. What is perceived as needed is

> . . . a more adequate articulation, interfacing between vocational educational agencies and other agencies such as Manpower and the whole dimension of educational delivery systems. . . . Certainly at the national level it doesn't seem it's being done. At the local level, . . . it is not done and that is one of our biggest problems (732).

Vocational education at the state level does not adequately recognize the supportive contribution of "what's going on in private industry, private schools, other agencies and so forth" (711).

Recommendations

The first problem relating to social and economic support outlined by conference participants was that of assessing the economic support in the marketplace for the product of vocational education systems and the concomitant issue of conveying the nature of this support to the public at large. Both of these problems appear to stem from the lack of information which could be provided by a detailed follow-up system for vocational education students. Taking cognizance of this fact, the conference participants discussed the development of follow-up systems for vocational education at some length. The most specific recommendation related to the development of follow-up systems similar to those presently in existence in at least two states (New York and Pennsylvania) where follow-up data are managed by social security number. The advantages of such a system include the provision of positive

identification, which prevents duplication, and the potential for gathering information at a later date. In one state, a project is underway to follow up vocational education students through the social security number and the state income tax (284). The system has its drawbacks; for example, as the state director noted, "it is costing us a bucket of dough" (285), but it is capable of providing detailed follow-up information. At present, this is a single state, but it could be expanded to the federal level by using the federal income tax and the Dictionary of Occupational Titles:

> The federal income [tax] form has a little box for documentation and it has a Social Security Number . . . then I have no more problems . . . . You can have a longitudinal system following that person through life (286).

Such a system would require the cooperation of the federal government with the individual states; however, even the use of a common data acquisition management scheme by social security numbers might go a long way toward promoting a common data base among states for follow-up purposes.

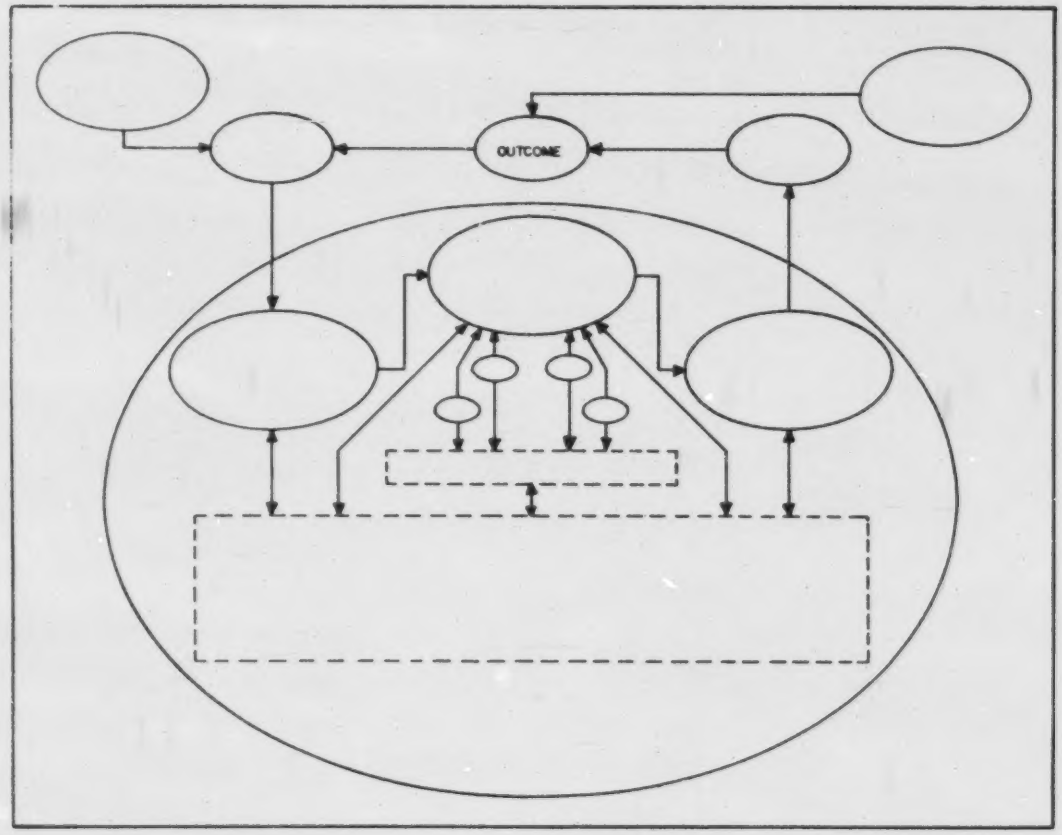
Recommendations beyond this suggestion were difficult to obtain. The system suggested could provide longitudinal data on income, job title, and working history for every student exiting a vocational education program--admittedly considerably more information than is currently available. However, there was considerable disagreement among conference participants regarding additional information which might be collected in a follow-up system and disagreement over who should take the responsibility for collecting such information. Some participants felt the responsibility should reside at the local level (808); others suggested it be carried out by the Education Commission of the States (805). No clear-cut recommendations in these areas were forthcoming.

Leaving aside the question of responsibility, it is apparent that the capability for mandating the development of follow-up systems does reside at the state level. Therefore, it is recommended that each state act to establish a policy mandating the development of in-state systems for following up students who exit from the vocational education system and that follow-up records be maintained by social security number to facilitate the future development of any national system of record-keeping.

Other problems identified by conference participants related to the role of advisory councils and deficiencies in

interagency communication. A detailed recommendation covering several aspects of the role of advisory councils appears later in this report and will not be discussed here. With regard to the problems of interagency communication, there is little a state agency for vocational education can do regarding the attitudes toward communication held by other agencies, but a great deal it can do about its own attitude. Specifically, it is recommended that agency policies be instituted which would require consultation with appropriate other state agencies during the planning process and that this requirement also be extended to require planners to show proof of their consultation both with the other agencies and with planners at the local level.

OUTCOMES



Society seems slowly to be shifting toward a concern for equality and social justice as the prevailing values of a post-industrial society. The concern for equality is articulated through "equal opportunity"--the belief that the opportunity to share in the material rewards of society should be equally distributed. Education has until recently almost universally been accepted as the means for opportunity equalization. Whereas the Smith-Hughes Act and the George-Barden Act defined as the purpose of vocational education "to fit for useful employment," the Vocational Education Act of 1963 sought to maintain, extend and improve educational programs ". . . so that persons of all ages in all communities of the state . . . will have ready access to

vocational training . . . ."

Ready access is assumed to reduce deprivation and discrimination by providing individuals with upgraded job skills, making them more competitive in the labor market. Increased job skills of those previously unskilled supposedly raises productivity which results in increased individual income and self-esteem. Additionally, equalizing educational opportunities through ready access supposedly reduces the supply of low-skill labor and increases the supply of skilled labor thereby serving to equalize the distribution of income. Given these assumptions, vocational education strives "to provide top quality, diversified occupational offerings for all levels and all ages of people and all kinds of people" (684). Yet, the outcomes have been such as to lead at least one participant to conclude that ". . . the single most glaring failure of vocational education [is] the disparity between our intentions and our results" (315).

Perhaps a partial explanation for the disparity is that the egalitarian goal of "ready access" to "top quality diversified occupational offerings" has been superimposed on the more traditional, pragmatic goal of fitting for "useful employment." The result has been that vocational education seeks to provide ready access to vocational training primarily for the pragmatic purpose of training people for employment. The point was made that with limited budgetary resources "the goal [of the vocational educator] is utilizing the resources which he has to turn out people who are employable with given skills . . ." (77).

The implication of training for specific job skills is that vocational education assumes responsibility for producing an outcome--an employed, productive and satisfied worker--over which it has at best only limited control. This responsibility carries with it a host of problems. Change in program content may not keep pace with changing job requirements leading to the possibility of training for jobs that don't exist and "programming kids for oblivion" (607). As one conferee charged, "One of the most irresponsible things that one can do is to produce kids with skills for which there is no market" (355). The emphasis on marketability has led to an accountability maxim that program graduates should find initial employment in related job areas. This assumes that the decision of a high school student to explore an auto mechanics course, for instance, is a firm career decision and that vocational education is somehow to blame if "you train him in auto mechanics and then he does something else" (1035). Secondary benefits such as increased holding power of students as a result of

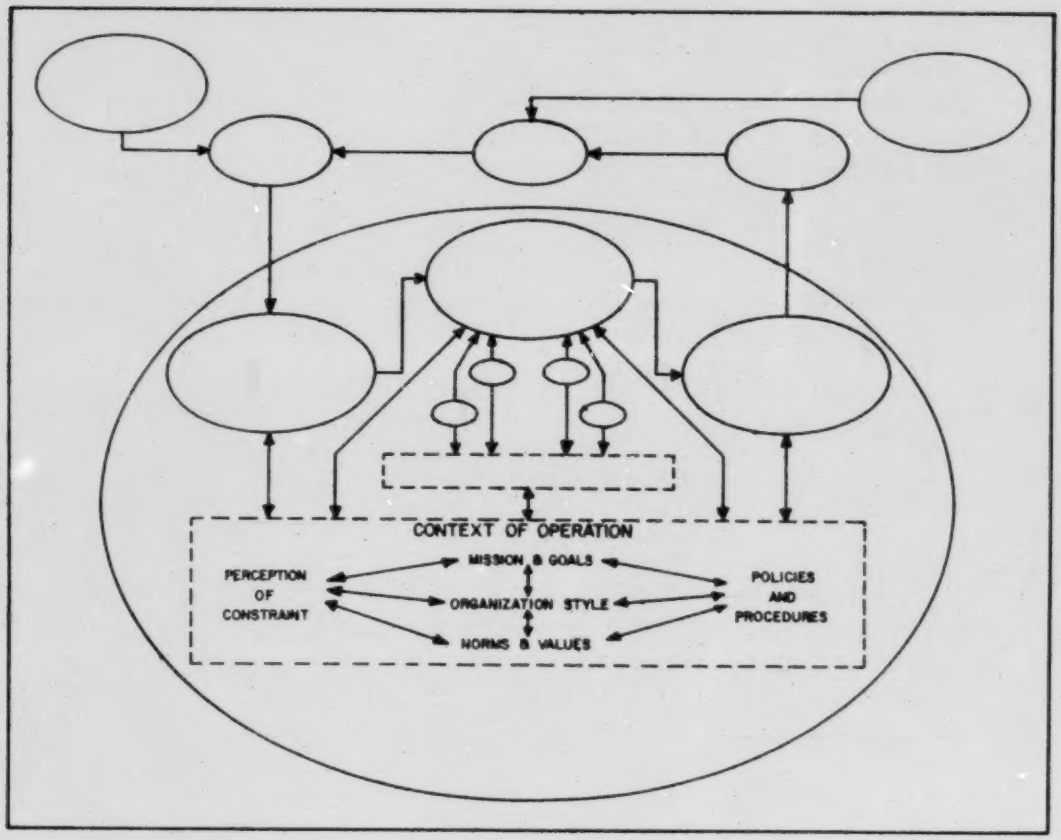
the introduction of an air-conditioning course carry no accountability points when employability is the prime criterion. The question was raised that "maybe the reason that vocational trainees wind up in unskilled and semi-skilled jobs is that some part of what they learned wasn't what they needed to know" (1037). It was also suggested that perhaps vocational education graduates advance faster "once they learn something about the particular place they are working." Unfortunately, these kinds of questions were not seen as answerable given the current information collected by vocational education systems.

A counterpoint to the employability philosophy was offered by a state director who noted that:

> It may very well be that the greatest thing that happens to our boys and girls in vocational education is that they do learn to plan, they do learn to attack a problem, they do learn to follow directions, they do learn to work safely, they do learn to cooperate with people and even if they do get a job in something else that vocational training has been very valuable to them (1038).

The ultimate desirability of these skills and the probability of their attainment rests with an environment whose demands and supports are largely beyond the control of vocational education planners.

THE CONTEXT OF OPERATIONS



The ideal world for planning would be a world without harmful constraints. Planning models seem to be generated for such a world lacking boxes labeled "balky legislature", "vocal pressure groups", or "political obligation". However, the world of the practical planner is full of these boxes and many more with labels like "operational procedures", "state goals", and "established policy". The former group are informal aspects of the planner's job. Both groups may be combined and described as constraints, where constraints are understood as limitations on the planning process. Planners do not plan in a vacuum; they plan within an overall operational and organizational context which constrains them through either formal or

informal methods to take or forego particular planning routes. In the model (see Figure 4) a number of different types of constraint upon the planning process are shown, both formal and informal. The material collected from the conference relating to these areas was extensive.

Mission and Goals

Constraints represent limitations on the scope or type of action which may be taken in a particular circumstance. Not all constraints are bad for they merely prescribe reasonable boundaries for consideration. In the case of vocational education planning, missions and goals represent healthy constraints. They should limit the scope of consideration to a field which can be handled. For example, the knowledge of a mission relating to vocational education tells the planner that he need not worry about a need in his area for a new water supply. Another agency, whose mission or goals relate to water supply will handle this problem. What is of most importance to the planner in vocational education is a knowledge and appreciation of his mission and goals and an organization of that knowledge so that it can be used operationally to render judgments on problems in planning. It is apparent from the results of the conferences that there is a deficiency in this area in vocational education. This is not entirely the fault of the states. Vocational education, as an area of study, is in a state of change. As one long-time state director of vocational education noted: "We thought of vocational education as being retraining or training directly for employment. Now, of course, it is broadened . . ." (49). Even the experts at the conference disagreed, often vehemently, regarding what vocational education is, how it is characterized, and the nature of its goals. The lack of common agreement among vocational educators has led to a considerable discrepancy in mission statements both among states (795-796) and among agencies involved in what might be called "vocational education" (734). Problems relating to the discrepancy in mission statements among states are sometimes manifested to those outside vocational education. In particular, Congress has obtained a view of vocational education as highly fractionated as a result of its review of vocational education services offered. One state takes a narrow view of vocational education and lists a small percentage of all persons served; an adjoining state may use a broad definition of vocational education and show three times as many students served even though it has only half the population (796). It is difficult at best to explain discrepancies such as this to Congress or agencies like the Office of Management and Budget (796).

Another aspect of the definitional problem is that broad definitions often lead to all-encompassing statements which include the activities of other agencies under the general rubric of vocational education. For example, one definition offered at the conference characterized Harvard Medical School as a vocational institution, since "every institution which starts out with the purpose of giving you a skill to use in the marketplace is in the business of vocational education . . ." (21). Other definitions posed similar problems. One broad offering which characterized vocational education as "something that happens to people to help people become employed" was objected to on the grounds that it would include programs in the Veterans Administration, Labor Department, and Department of Commerce (697). It appears likely that the cause of this definitional problem is an inability on the part of vocational educators to interpret the role of vocational education in helping to achieve national goals for manpower development. Unfortunately, there is neither an overall national manpower policy (695) nor an articulated national plan for vocational education (700) which would provide vocational educators with the means to interpret their proper role. Thus, each state develops its own operational definition, based presumably on whatever philosophy of vocational education is prevailing at the time. The result is the fragmented national picture of vocational education.

The utility of a mission statement in a state agency for vocational education rests in the use of the mission to identify problems as they relate to the mission and to generate goals and objectives within the framework of the mission so that solutions to the problems can be found. A mission, therefore, is not simply an abstract statement of what an agency is concerned with, but rather the beginnings of an operational definition of the boundaries of interest for that agency. The definitional problem in vocational education has led to the problem of fragmented and often poorly stated mission statements of the various states, and this in turn has led to difficulties in developing rational goals and objectives for vocational education within the states. As one conference participant noted, "I don't think you can state any goal in such specific terms there can't be disagreement about it, and disagreement about how it is to be complied with" (68-69). Further documentation of this problem was provided by a state advisory council member: "We are still in the process of trying to learn how to carry [vocational education mission statements] further than putting them in the state plan" (683). If this remark represents a generalized problem, it means that the states are having difficulty in using their mission statements operationally to generate goals, objectives and solutions.

It is noteworthy that at least one state director did not view mission statements as a problem. His state viewed its purpose as identical to that stated in the Vocational Education Amendments of 1968 (684) and contended that it attempted to follow that purpose (689). Other participants, however, felt that there were significant problems of interpretation in the 1968 Amendments. Supporting this notion was the comment that the administration of the Amendments comes through the filter of the federal bureaucracy, and even those in the U. S. Office of Education, outside the vocational education areas, seem to view vocational education as limited to preparatory training at the secondary level (734).

Norms and values. There is a political side to the problem of missions and goals as well. State goals for vocational education reflect the values of those who set the goals, at least to some degree, and they also make explicit those values. In a particularly candid observation, one participant noted: "I contend that very, very few groups are ever 'left out' of a plan inadvertently. The reason that . . . so-called disadvantaged groups were left out had nothing to do with oversight, it had to do with the set of social values which wound up as specified goals" (321). This, combined with the fact that politicians may prefer to present a moving target to their opposition, may exercise a serious constraint on the setting of goals for vocational education in a state. Those responsible for goal-setting would rather have the goals specified only loosely and on a short-term basis.

Therefore, it appears that there is a significant problem in providing the healthy constraints represented by missions and goals for state-level planners in vocational education. These constraints are needed to help give direction and purpose to the planners' activities. Factors militating against the development of these beneficial constraints include the lack of a clear definition of vocational education, the absence of a national plan for either vocational education or manpower development, the lack of clearly defined state missions, and the desire on the part of some not to be pinned down to a statement of goals which might make their values explicit and thus attackable.

Policies and Procedures, and Organizational Structure

Due to the nature of the conferences and the differing backgrounds of the participants, relatively little information was collected with regard to policies and procedures. Obviously, conference participants could not

afford to interest themselves in specific state policies or structure to any degree without risk that the entire conference degenerate into a discussion of states' specific issues. However, some information was collected on generic problems in these areas such as the funding of planning operations, problems in training, and personnel difficulties.

Both organizational structure and specific policies and procedures operate as constraints on the planning process. The effects of these constraints may be either beneficial or harmful. A "good" policy, like a well-defined goal, provides a guideline which helps to limit choices of action and reduce uncertainty. A "bad" policy is one which restricts too stringently and cuts off viable options. Often those who recognize "bad" policy and circumvent it become known with respect as persons who can "cut red tape." Alternatively, a "weak" policy may not be restrictive enough. For example, in state-level planning, advisory councils and the input of ordinary citizens might be deemed beneficial. However, it appears that some states make relatively little use of this input. According to one participant, in some states the state directors of vocational education do not even meet with the State Advisory Council (294). Another participant cited the lack of involvement of local people in the planning process (981). In yet another state, the policy stated in the Vocational Education Act of 1963 which requires public involvement in the planning process is satisfied by a single public hearing (135). The first two examples indicate a lack of established policy (or a policy of noncommunication); the last example illustrates a "weak" policy, or weak implementation. In both types of cases, the net effect is a reduction of relevant input into the planning process.

Another aspect of the context of operations is the planning staff--its ability, training and the structure within which it must operate. There is a distinct lack of planners with ability which may be traceable to a lack of training available for planners. At present, no one appears certain who should bear the responsibility for such training. In the case of state plans required by the federal government, some participants felt the regional offices of the Department of Health, Education and Welfare should bear the training responsibility; however, "some of them do and some of them don't" (493). In any case, the individual states have little money available to mount training programs for their own staff, and federal programs which might have provided money to assist in the planning process have not been forthcoming (93, 1067). The

managerial structure for planning also contributes its share of problems. Many states still retain a structure organized by occupational field. To quote one participant:

> They take their state allocation and they cut it up into seven pieces and give the ag guys their chunk, and the home ec gals their chunk, and the T & I people their piece, and everybody goes off with a pocketful of money and they invest it as they see fit (200). This process may represent "resource allocation," but it is scarcely a description of articulated planning.

In addition to the problems noted above, conference participants also identified staff turnover as a factor in both the inconsistency of state planning (1069) and problems in long-range planning where staff may not be around to see the planning implemented. These problems are compounded by turnovers at other levels. Changes in administration affect the stability of the planning process both at the agency level where state directors change and at the executive level where changes in political leadership often bring different points of view (558). Particularly, in a new administration there appears to be a period of inertia while new political styles and priorities are sorted out (546).

The Ordering of Priorities

Priorities represent another area of formal constraint in the context of operations. The application of priorities, once formed, affects the entire planning process from the formulation of problems to the final selection and implementation process. However, the methods by which priorities are decided remain elusive; furthermore, the point during the planning process at which priorities are decided is by no means clear. There was considerable discussion throughout the conference as to whether priorities should be fixed at the level of goals (918, 469) or objectives (943, 948) or whether it is a continuing process which fluctuates with new information during each step in planning (948).

In certain cases, "the priority is a superimposed priority that is not acceptable" (454) but in the interests of qualifying for the federal dollar, becomes a constraint within which the planner must work, e.g., that 15% of appropriations be spent on the disadvantaged. Similar restrictions may be applied at the state level for the expenditure of state-appropriated monies (412), which introduces the danger of "two sets of priorities, one a priority and one a hidden agenda" (455).

Perception of Other Constraints

In addition to the constraints already noted, there are many others both formal and informal which we have classed together simply because there is no rubric to cover all. The constraints identified in the following paragraphs will be familiar to many persons involved in the planning process, and indeed many more might be listed.

Perhaps the most important informal constraint in this category is the whole area of "politics." There are political constraints on the planning process, whether educators would like them or not (196-197). In fact, one participant observed that "planning without politics is a paper exercise. Most educators are scared to face up to politics because they pretend to be pure" (561). While this rather pungent remark was not allowed to pass untested, conference participants did seem in general agreement that political factors such as administrative support or non-support for particular concepts, goals or approaches had considerable weight. Indeed, the politics of planning are often subtle since they are easily confused with legitimate response to environmental circumstances. One participant suggested that planners needed to recognize underlying revolutions in society, such as women's liberation and the changing attitude toward the blacks (37-38). While these examples are undeniably social movements which deserve the recognition of the planner, it is difficult to separate the politics of these movements, from the reality of the social change. When a new administration sets a priority, the planner has little choice but to follow it regardless of whether his data lead him independently to the same conclusion.

Another problem for planners is the necessity to conform to multiple sets of regulations. Some regulations are imposed by the state governments, some by the federal. At times, when there is co-mingling of funds, there is a sizeable problem in the sorting out of these regulations and the satisfaction of both regulating groups (749-750). Related to this problem are other areas of statutory restriction. For instance, some states give planners little flexibility in the allocation of state funds (1005-1006). One participant offered the observation that "ninety to ninety-five percent of the money is already committed" (1004-1005). This often means that planners are constrained to work within specific budgets, determining first how much is available and then how to spend it, rather than actually planning against need.

In summary, the section of the model we have described as the "Context of Operations" contains a wide range of problems relating to the climate in which the planning process takes place. Certainly not all states have each problem noted, nor may the problems always exist to the degree suggested. Nevertheless, it appears clear the climate for planning at the state level is not uniformly pleasant and there are many areas in which the states themselves can work to improve their own internal planning environment.

Recommendations

The development of a mission statement--and from that the goals and objectives for planning--is one of the most important parts of the context of operations. As noted above, state missions for vocational education have become fragmented through the lack of a common definition of vocational education and a sense of the proper role of vocational education within the overall manpower development effort. Some aspects of this problem, particularly those relating to the clarification of the role of vocational education in the national manpower development effort, have been treated in the area of social and economic demand. In this section we offer specific recommendations relating to missions, goals, and objectives as well as to the areas of training, organizational constraints, and the climate for planning.

One comment by a conference participant captured, in the abstract, one reason for mission statements in all planning activities when he noted: "We sometimes make decisions and we don't realize that there are certain assumptions we are not conscious of. I always say that whenever a decision-maker makes a decision he is operating under all kinds of assumptions. . . . They ought to be stated" (109). The mission statement in vocational education is the first cut at making the assumptions underlying the planning process explicit. We have already noted the extensive problems involved in the development of mission statements for vocational education and there were two specific recommendations addressed to overcoming these problems. The first recommendation recognized the difficulty of obtaining a national policy statement and suggested a pragmatic state-by-state approach in which states would "determine what aspect of education they are going to assume the responsibility for, then set up a plan in order to accomplish those objectives and to determine the fiscal resources to accomplish it" (430-431). This recommendation encompasses not only vocational education, but implies as well an articulated state mission for

education in general. The fragmentation of vocational education noted earlier as a problem would still obtain; however, an explicit rendering of the assumptions underlying all of educational planning might result in a state-by-state improvement of the planning process. An alternative recommendation took a broader view. One participant suggested that a group of people from research, professional associations in vocational education, and state directors get together and, as he put it,

> . . . have a meeting for several days very quietly, and say, "Look, for the next couple of years let's agree on three or four things . . . if we have any disagreements, we are going to disagree among ourselves, but we are not going to disagree on the Hill [Congress], we are not going to disagree on 7th and D [U. S. Office of Education]" (193).

This latter represents a rather Machiavellian conception which, if it could be implemented, might go a long way toward unifying and standardizing the concepts upon which planning would be based.

Another important point with respect to mission statements is that they represent point-in-time statements of philosophy. It should be recognized that planning is a process and every aspect of planning, including the mission should be expected to undergo change. Thus, one recommendation from a state director was as follows:

> I think the process is the thing that needs to be emphasized. And every element in the product you are trying to produce is only a tentative product. The mission itself is a tentative mission. As the needs of the people change, that mission statement better change. The objectives . . . had better change; and the plan for attaining the objective . . . had better change (712).

"One of the objectives of planning [that is, the planning process itself] is to get a statement of goals" (77). These goals are a further step in making explicit the assumptions under which the planner is operating. Goals should not be stated broadly or in arcane language, but rather expressed "so the people can understand them, and to indicate to society what you plan to do, so they can have some kind of an indication where you are going . . . and also measure that in terms of the output, the product" (64-65). According to one participant, when you set goals you

"are trying to envision areas of service" (376). But the setting of goals is not the responsibility of the planner himself; it is the responsibility of those in a decision-making capacity. For the planner, goals should be part of the context in which he works, the background against which he develops his plans (66-67).

The only suggestion offered with respect to objectives was the recommendation that objectives be stated in measurable terms. "Any plan is going to have goals," said one state director. "You can go from those very broadly stated goals down to some very specific objectives that are quantified in such a way that you can measure your achievement against those objectives" (57-58, also 74).

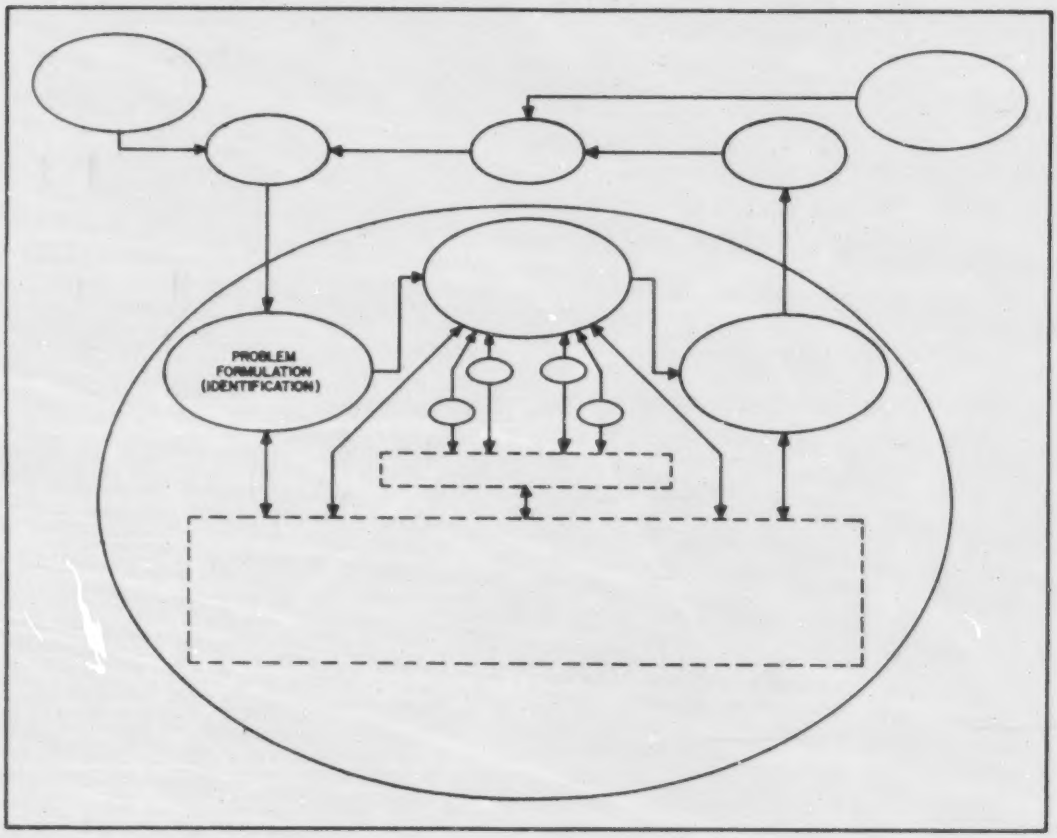
Another significant problem has been the lack of trained planners, and the conference addressed this problem in some depth. It appears that teacher education institutions are unlikely to be turning out graduates trained to do planning. This may be due, in part, to poor relationships existing between universities and state departments of education (987-988). The alternative to formal education is some type of on-the-job experience, be it apprenticeship, internship, or on-the-job training. Conference participants were strong in their support of these methods for training planning personnel. "Training in a work situation," said one participant, "will probably have more payoff to produce the kind of individuals that states need to do [planning] than three years of graduate education" (326). For staff already in place in planning agencies, a variation of the internship approach was suggested in which staff members would spend time in the planning agencies of other states (329). Since all states do not have the funds available to support an intern, some mechanism needs to be found to allow the utilization of these types of programs. Two suggestions were offered for consideration. First, it might be possible to use EPDA (Education Professions Development Act) money to support internship programs in educational planning (325). Second, an internship might be combined with formal training in a cooperative type of program: "Before you get your final degree, put together your first batch of courses and go out and use it, and then come back and get the few useful tools you need" (325).

In addition to these training recommendations, the subject of inservice training for planners was raised and recognized as an important area of concern. One participant phrased the recommendation eloquently: "An effective process of state program planning will never happen unless you have coupled with it a continuing inservice training program for

those who are going to do . . . the planning" (869).

Finally, conference participants identified a problem in state agency structure which may inhibit planning efficiency. This problem was the structuring of the state agency by occupational fields such that each field was apportioned a share to invest as they saw fit. Since such a process further fragments an already disjointed planning system, it is recommended that those states which still maintain an organization around occupational fields begin the process of shifting that organization to one which will allow for more efficient and articulated planning. A possible model for such a change would be the functional organization adopted by the U. S. Office of Education.

PROBLEM FORMULATION



The segment of the model labeled "problem formulation" represents the collection of mechanisms within the state agency which identifies situations in the environment and translates those situations into "needs" or "problems" for the system to deal with. There are a number of both formal and informal mechanisms for this activity in any state agency. The situations which must be sensed range broadly across the entire spectrum of social and economic demand from purely local problems to nationally defined demands. Information from the social and economic environment is processed in the problem formulation area and passed in two separate directions. Information regarding problems is channeled in the direction of the formulation and comparison

of alternatives. Other types of information regarding social and economic demand, such as statements of national priorities or goals, federal requirements for expenditures, or state goals, are transmitted to the context of operations to be internalized by the system. Most of the information generated at the conferences relevant to problem formulation was related to the latter type of information, principally problems in accurately assessing demands made by the federal government in the form of legislation or agency guidelines. Many of these problems have been discussed extensively in the sections on social and economic demand and the context of operations and it is not necessary to detail them again here. It is sufficient to note in passing that the states are having some difficulty in achieving a thorough understanding of the federal intent and they have been unable to adequately internalize information about demand. The mechanisms used by the state agency for vocational education in assessing environmental situations include obtaining information from advisory councils, communication with local agencies, personal contacts, and agency studies, to name the most obvious. Advisory councils, communication with local agencies, and agency studies represent clear and direct informational links to the environment. Personal contact is less clear and might be represented formally by consultants or advisors called in specifically to assist the agency or by representatives from the executive branch, and informally by representatives of the general public who make their views known at public hearings or through correspondence. In addition to these, each state has a body of procedures for submitting requests from the local areas to the state level. This may be done through standardized forms or proposals--in short, routine channels.

Many of the problems in the areas mentioned above are state-specific and received little attention at the conference. As has been noted in other sections, this may reflect either the relative absence of problems affecting intrastate situations or the desire not to "bog down" in state-specific issues, or both. However, some problems were identified and there is a clear indication that the states are experiencing some difficulties in problem formulation.

Advisory Councils and Problem Formulation

Advisory councils can serve as a transmitter of information about the environment to the planning agency. Their use is not restricted solely to advice about problem formulation--in fact, they may not be used as much in this capacity as in others--though this is one aspect of their function. The conference identified some problems in the relationship between advisory councils and planners in state

agencies. Though the specific mentions of advisory councils were usually in reference to their evaluative function, the problems raised affect the total relationship and hence are relevant to the present discussion.

In some states, the advisory council process appears to work quite well. One state director attending the conference reported in depth on the relationship between his office and the state advisory council. In his state the council is truly advisory; it meets periodically with the state department personnel to review what is being done in planning, particularly with regard to the State Plan, listens to the justification for priorities which the state department has developed, and reviews proposed distributions of funds. This advisory council has funds of its own and is capable of conducting independent evaluations of items which it feels require additional information. The state director concluded his discussion with the comment that he feels his advisory council "now plays a pretty significant role in evaluating or reviewing what we are doing. I feel accountable to them" (295-296). However, as rosy as the picture looks in this state, good relationships with advisory councils are not universal. Another state director told a very different tale. In his state, a recent political change had caused a change in Advisory Council members and a change in the character of the council itself. The result was a growing isolation between the Advisory Council and the State Department of Education (296). The differences between the two states was ascribed to the difference in mechanisms for appointing advisory council members. In the successful state, advisory council members were appointed by the State Board of Education; in the unsuccessful state by the governor. The feeling was that the appointments by the State Board reduced the "political" nature of the role and advisory council members had a better sense of relationship to the State Board. It must be pointed out that there are other states in which the state advisory council is appointed by the governor and in which these difficulties do not arise. Therefore, while this is not a generalized problem, it may reoccur in other states. What is important here is the indication of the variability in relationships between planners and their advisory councils, and the fact that advisory councils may not be of service to planners.

The Local Agency and Problem Formulation

One of the formal mechanisms for problem formulation in a state agency is the transmission of local concerns to the state agency by personal contact, or through the mechanism of the local plan, through formal proposals or through

standard operational procedures. The informal aspect of this mechanism is not one susceptible to treatment in a report such as this. However, the accuracy and utility of this method probably varies greatly both within and among states. On the formal side of this mechanism, there was evidence presented in the discussion of the conference participants which indicated that local concerns were not particularly well transmitted, or at least were not received well by planning agencies. A number of participants commented upon the lack of articulation between local areas and the state level in the planning process (700, 634). In fact, the general consensus appeared to support a statement that articulation between all levels in the educational hierarchy from the local to the national was inadequate.

The Planning Agency and the Sensing of Needs

A state agency involved in planning for vocational education does have a capability to generate direct information on environmental situations. Planners can gather available data, arrange for studies, review the evaluation of existing or past programs and in general develop their own body of information designed to sense the needs of their client group. The "Request for Proposal" may also be used as an instrument to generate information about local needs. The principal problems which arise in this area for the planning agency relate to the quality and obtainability of data which will be covered in a later section. As was noted above, communications with local educational agencies are not always of the best and, consequently, there may be difficulty in obtaining relevant local information. So far as the review of existing programs to determine needs is concerned, follow-up information relevant to program placement is often inadequate. Even where such information is available for the year immediately following completion of a program, data on subsequent years become harder to obtain (787, 788). Without such knowledge planners cannot sense the needs of persons for different types of training, discover whether training was inappropriate, or determine whether their training was complete or incomplete.

Recommendations

The recommendations listed above for social and economic demand are applicable in this area as well. In fact, the relationship between these two areas is very close since any lack of clarity in the social and economic demand may condition a corresponding difficulty in formulating problems. Specific recommendations in this area center primarily around the role of advisory councils and the

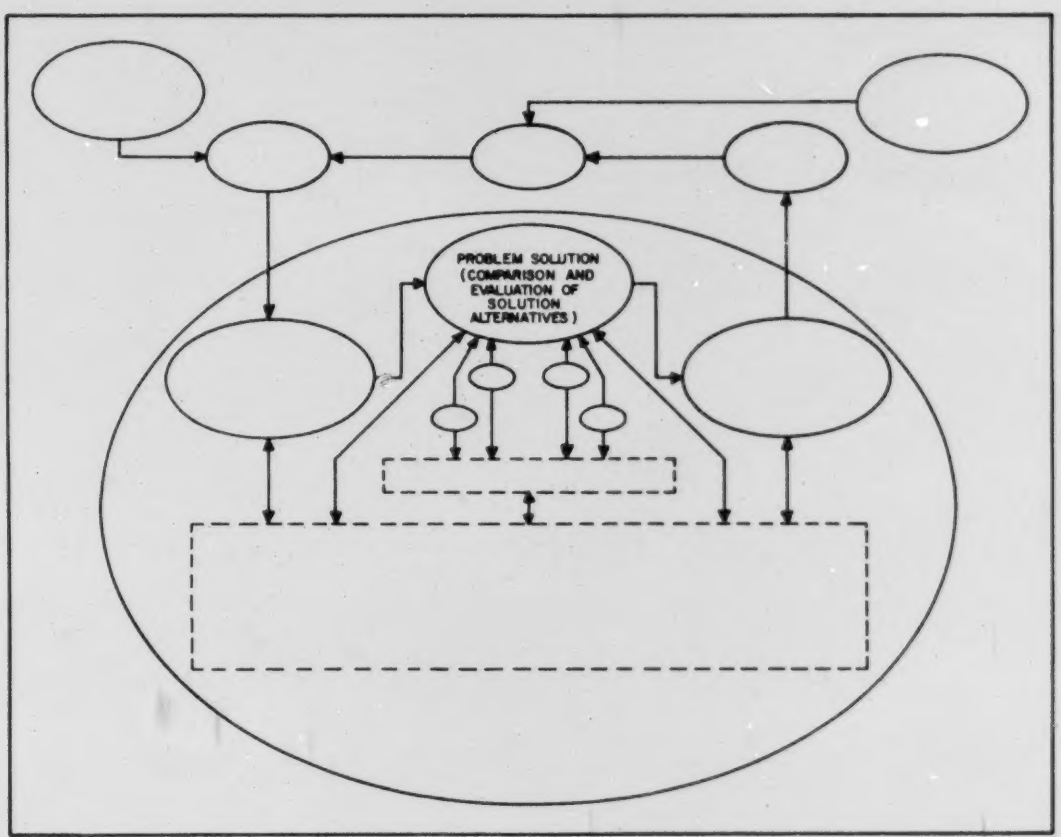
involvement of people outside the state agency in the planning process. The specific problem noted in this section with respect to advisory councils related to the composition and method of appointment of these councils. Since it is not apparent that this is a generalized problem, no recommendation is offered here. However, there are other aspects of relations between state agencies and their advisory councils which may be appropriately addressed in this section. Problems noted in the section on social and economic support related to the lack of communication between advisory councils and state directors and these problems were echoed again as they related to the context of operations. If a distinction can be inferred from the material gathered at the conference, it is that some states have effective advisory council systems characterized by mutual cooperation and communication between the advisory council and the state agency, while other states have ineffective systems characterized by competition and non-communication. The recommendation to improve the relationship between advisory councils and state planners was not drawn from the conference material per se, but rather from a review of the draft document provided by one conference participant:

> In the discussion concerning the relationship between state directors and their advisory councils, the tone is one which indicates that the advisory councils are supposed to conform to what the state directors need. But nowhere in the discussion is it apparent that state directors, themselves, take a hand in trying to formulate the type of council which is developed or functions which the council has. It would seem that if there is going to be a more effective use of councils, then the state directors have to see the council as supporters and involved in the planning process rather than seeing them, as is usually the case, as competitive or "negative." Planning should really be based on a complementary or cooperative relationship between the planners and state advisory councils. This is usually not the case, and as a result the planners and the councils tend to be competitive or do not tend to work in a manner calculated to [produce] a positive or constructive result. . . . The state directors, themselves, are more nearly "in the saddle" than they would like to indicate is the case. It is always simple to lay the blame for a breakdown in this relationship on the advisory councils rather than on the development of a cooperative mechanism by the state planners

in concert with leaders on the advisory councils.

In addition to this recommendation, it appears worthwhile to suggest that the cooperation established include provisions for the formal involvement of the advisory councils in the planning process by means establishing a joint policy between the advisory council and the state agency mandating procedures for obtaining input into the planning process as well as those for evaluating the state plan. Such procedures would be of assistance in helping the state planners to formulate problems.

COMPARISON AND EVALUATION OF ALTERNATIVES



The Search for Alternatives

Once a need has been appropriately identified as constituting a problem for the state vocational education agency, alternative strategies for meeting the need are generated and evaluated. The formulation, comparison, evaluation and eventual selection or rejection of these alternatives form the core of the planning process. They occupy diagrammatically central positions in Figures 1 through 4. Yet the three conferences yielded little in the way of overt problems in this direction. One state director offered a partial explanation: "Maybe I don't think that I have control of the alternatives. I think of all the planning . . . I am doing, . . .and I am probably doing this

area of alternatives the least" (511). Acknowledging this as "one of the major issues" (516), this participant referred to the confusion felt by vocational educators regarding the freedom they have to entertain much in the way of alternatives.

One inhibition to the initial generation of alternatives seems to be the shortage of communication between vocational education agencies regarding the success or failure of various programs. In some cases, "the failures of alternatives don't seem to make any damn difference" (511). The lack of dissemination of the results of new programs in other states or local areas deprives planning systems of valuable input. A contributing factor is that methodologies and data systems for the collection and transcription of information differ across state agencies, making direct comparison of alternatives less feasible. Some participants saw this issue as crucial (227) though the view was also expressed that opportunities for communication of alternatives did exist, but were not often used to best advantage: "Too many of us want to tell the rest of them what we are doing. Once we have finished telling them . . . . We don't want to listen" (520). Information is also lacking on sources within a state or local area of alternative program resources in the private sector, industry, the community, or other agencies. "Most state directors do not have a listing of institutions that might be used as alternatives for delivery" of vocational education programming (518).

The range of alternatives available to the state vocational education planner is obviously limited by fiscal, legislative, or other constraints, but the degree to which planners work even within these limits to search out viable options is not so clear. Some states may be "locked in totally to a reimbursement system . . . . Whatever the local people want to do and continue to do, they will share the money" (345). Others "do not even display alternatives" at all; "they have a fixed arrangement, and that is what they are going to do" (345).

Part of the difficulty in assessing how much states currently explore in terms of alternatives lies in the fact that seldom, if ever, is this stage of the planning process committed to paper. Formal plans normally do not contain details of options other than those chosen, or reasons for their rejection. Therefore, the extent to which alternatives were generated in the initial formulation of the plan, and the range and rationale for their evaluation, usually remain known only to the planners. This makes it hard for those outside the immediate circle of planning to

estimate the degree of rationality attending these decisions. There is also a risk of frustration as a result for those who must live with the options chosen, but are unaware of the reasons for their choice.

Though there was little disagreement throughout the conferences concerning the importance of serious consideration of alternatives, little was forthcoming about the process of actually generating or collecting these in the first place. Predominantly, state planners seem hampered by uncertainty as to their autonomy in the area of alternatives. There seemed to be at least inadequate use of whatever communication systems may exist for dissemination of information on attempts to implement alternatives in other states or districts. Finally, information is lacking on the nature of alternative delivery systems within states.

Evaluation of Alternatives

The difficulty facing planners in vocational education in the evaluation of alternatives is the same as that facing all other planners. "You can't evaluate alternatives if you don't know . . . what they are. We don't have a complete assessment to identify what they are" (518). Not only is there inadequate transmission of information on the results of existing programs, but information is also not yet sufficiently well developed to permit successful prediction of the effects of new ideas. Planners are able to estimate with reasonable precision the economic costs of a known program, but immediate and long-term social effects are "difficult . . .almost impossible really to measure" (580). It is also difficult to evaluate the impact of new monies on existing programs, even when criteria are in terms of employability. "Except for a hit-or-miss analysis on particular programs, I do not think school districts know whether the money is used to get [vocational education students] jobs years later" (255).

It becomes particularly difficult to justify the defense of one program over another when certain target populations require greater expenditures per head than others (578). While planners by law may not ignore minority groups, their considerations over whether or not to allocate extra resources for the same results are further complicated by the field's inability to secure hard data to demonstrate the societal benefits of such a strategy.

It may be discovered during planning that certain goals are incompatible, necessitating a choice between them (106). Economic growth and better distribution of income, for example, may not be mutually attainable (84). Broad

questions of this kind may not become apparent until after considerable research. However, the planning process may "set up an evaluating mechanism that we would not have otherwise" (85).

Alternatives have to be tied into dollar costs, as each alternative is considered. Constraint is a characteristic of scarce resources, and "the limitation of funds . . . forces you into certain kinds of programs rather than others" (468). In cases of mandatory resource allocation, for instance with federal funds, planners are limited to choices within specific areas, e.g., 10% for the handicapped, or 15% for postsecondary programs. Yet states find more flexibility in federal funds. State funds are often "heavily committed" (1005). "The federal dollars are normally more free than my state dollars are. The state dollars . . .they tell me bluntly what they want me to invest in" (532). Even with the comparable planning freedom in the implementation of federal as opposed to state funding, planning at the state level is virtually "at the margins," since most state directors "have commitments for probably 90-95% of the money" that is requested (1004). Even where there is some planning freedom for fiscal allocation, resource allocation criteria are "not used by vocational educators in any sophisticated fashion" and vary from "subjective judgment" to "emotionalism" and "political pressure " (89).

The reality of administration often dictates that alternatives be determined by fiscal availability. "The first role of administration is getting the money" (531). However, the allocation of resources <u>prior</u> to planning "seems to be in reverse of logical sequence" (79). This was stressed throughout the conferences as a pressing problem.

> Too frequently objectives are determined on the financial resources allocated. The hidden [purpose] of the particular agency becomes the expenditure of the money that is allocated to the state. . . . The unfortunate thing about planning is that it too frequently takes a reverse role to determine how much money you have, and then to determine how you spend it (430).
>
> Do you plan to serve the needs of the people and then determine where the resources are to get the job done . . . or do you let the resources dictate how much planning you are going to do? (697).

Throughout this generation and evaluation phase of the planning process, the restrictions are pervasive--some will probably always be beyond the control of the planner. Political pressures may vary, but are not likely to disappear. Vocational education can expect to continue competing for scarce resources in the educational arena. An area over which planners may exercise some control, however, is the amount of information they may glean regarding the precise nature of the constraints within which they must work. As previously mentioned, planners usually must function in an atmosphere of less than perfect information. Varying degrees of uncertainty about community needs, labor demands, legislative intent and educational products will accompany all efforts at vocational education planning. Four kinds of uncertainty have already been identified in the discussion of the planning model and will be discussed later in the light of their effects on planning.

Recommendations

The "consideration of alternative methods for the attainment of each objective" (918) was suggested by a state director as an integral part of the planning process. Each alternative should be assessed "to determine . . . cost benefit or resource availability" (918) with a view toward the eventual determination of a choice of action. Yet, as noted in the section above, relatively little attention is being paid to the search for and comparison of alternative strategies:

> In the planning processes perhaps we are not considering enough different ways of attacking the problem before we put down into the state plan a particular program we are going to run (893).

However, alternatives are plentiful if only state planners can muster the time and energy to put them to good use:

> We already know far more than we are able to put into practice. There is an awful lot of educational methodology that has been developed in the last few years. . . . all kinds of programs. We have to get out and dig it out (890-891).

If the problem then emerges as one primarily of time and available staff (894), it becomes important to find better ways of making the information on alternatives more readily available to state planners. "There are a lot of alternatives out there, and what we need to do is get information about them, to have a technique that enables us to evaluate them" (897).

One proposed method for increasing the potential input of new information from outside the agency on alternatives is to include more external consultation in the process of arriving at a set of regional strategies for achievement of objectives. One state director emphasized this.

> I have a feeling that many of us get lazy and the federal government sends their bucks down and says, "We'd like you to do so and so," and we assume this is the priority for the whole program. It doesn't need to be. I think we need to consciously organize a session or sessions of the state advisory council, of the appropriate department people, of local people, board people, whoever is appropriate, to . . . talk about what should be our priorities and get input from all sources in addition to the federal government. I just think we get lazy and don't do this (850).

The solution to this problem may lie simply in the development of appropriate state agency policy. It is within the power of state directors to establish a policy for their agency which would direct agency planners to gather information on alternaitve strategies either through the use of consultants or through communication with other states. In order to ensure that this would be accomplished, the policy statement should mandate further that records be kept of the search for alternatives and that the presentation of any plan be accompanied by a statement of the possible alternative methods of accomplishing the same task together with reasons for selection of the alternative chosen. The routine maintenance of records such as this would have the beneficial side effect of creating a valuable in-state information source on programs and practices around the country.

Wherever the source of the information on alternatives comes from originally, the internal organization of that information in such a way that it is relevant and readily retrievable becomes necessary. All agencies have some kind of information management system either formal or informal, and in varying degrees of sophistication. Recommendations were made during the conference specifically to the evaluation of alternatives through such systems. Planners should be able to go to their own data banks, which provide "a tool which tries to tell you what is existing and what has been happening . . ." (715). Assuming that the necessary scope of knowledge is forthcoming from the agency information system, "then depending on what your management information system tells you, you initiate new techniques and new activities to better achieve your mission" (716).

The policy recommended above would have impact in this area as well.

Furthermore, techniques exist which can provide swift comparison and evaluation of alternative strategies through computer simulation (895). Instead of waiting until a particular strategy or program has been tried in the field, planners may wish to design and run several alternatives through simulation to examine cost/benefit factors in advance of actual implementation. This method is expensive to set up but if used judiciously, "is one way to test complex alternatives by the dozen" (895-896). This suggestion was in keeping with another made earlier in the conference, which noted the judgmental nature of much of today's vocational education planning and called for the further use of applied external research in the planning process.

> I think one of the problems in vocational education is that we often tend to talk about [and] accept conclusions on cost benefits [which] we think we have done mentally, or values which we think are really being achieved, and very little real research has been done on it. I think it would be of tremendous use in the planning process if we could begin to get some of the insights that might come out of an outside research arm being given an operational problem, not being given the task of basic research (91).

The application of existing research methods to the processing of alternative strategies might yield improvements in both the scope and efficiency of planning. One state director expressed interest in the idea, offering the suggestion that not all the analysis need take place within the state vocational education agency:

> I don't know about the rest of you but I don't have all the staff some of you people have got. I have a stack next to my desk that is always that [indicating] big. . . . I can't get through it all . . . if it can be done by computer, that is something that I think OE or somebody ought to do to help digest some of this and come out with some analysis of it (899).

The proposition, however, as stated by a planning researcher at the conference is:

> It's not the sort of thing that would happen overnight. It takes a long time. It would be

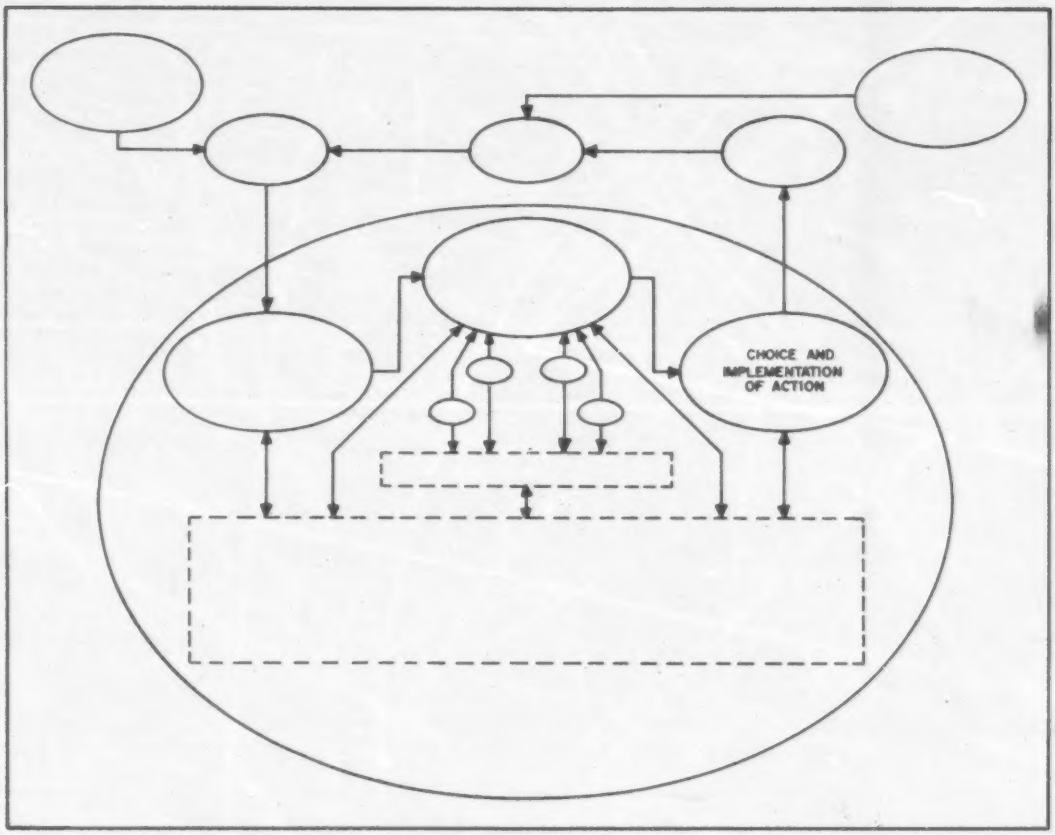
> foolhardy, to say well, in five or six months worth of studying we could have such a procedure . . . . If there were some amount of money to fund an operation for a year and a half, two years . . . then at the end of that time you would have a way to do an awful lot of checking of alternatives and do it quickly and reasonably cheaply (900).

Thus, once the system is in operation, "it's really the only way to test large numbers of alternatives without having all of Caesar's legions working on them for you" (898). Notwithstanding the initial cost and time involved in creating such a system for alternatives, which might itself be part of a larger information management system, it has persuasive power as a planning tool in the area of alternatives alone.

> If you wanted to push it even further, and if you could come up with ways of evaluating or at least estimating the results of alternatives . . . with mathematical programming techniques, you could come up with optimal or near optimal mixes of alternatives. In other words, for a given amount of dollars, how can I achieve objectives A, B, and C with different kinds of alternatives. These things are done rather frequently in large corporate management situations, and to a certain extent in urban and regional planning (899).

The ultimate purpose of exploring alternatives at all is to put the money where it (a) is most needed and (b) will do the most good. This argument may also be applied to the planning process <u>per se</u>. Information and research systems of the above kind would not only help optimize resources allocated for the implementation of vocational education programs, but also would considerably upgrade the effectiveness of the process of planning itself.

CHOICE AND IMPLEMENTATION OF ACTION



The ultimate product of the search for alternatives emerges as a formal plan for action. One or more strategies are selected from the set of options already generated and evaluated. The actual methods used by those responsible for decisions remain arcane, and conference discussion bordered on the flippant. "One guy may choose among alternatives in a drunken stupor," suggested one state director; "another . . . may have a dart board" and even the wife or the Ouija may be invoked on occasions (344). Though methodologies may be intangible, results are not. Commitment to a particular course of action is signalled by either the direct allocation of resources or some public statement of intent, and at this point planning becomes "the plan". The assumption is that the actions chosen are the ones most appropriate for the alleviation of a particular

educational need.

The Vocational Education Act of 1963 and subsequent amendments explicitly provide for the maintenance of existing programs. Thus ongoing commitments to facilities and staff and their justification become an important consideration, even an implicit priority, i.e., "to utilize the resources rather than to meet the needs of the people" (1015). Because of this, difficulties may be encountered in the introduction or termination of programs. An illustration of this was provided by one participant who objected strongly to the maintenance of ongoing programs beyond the point where they had much relevance to the job market.

> Don't tell me there are not facts to indicate that we have had vocational education that was run just for the interest of . . . teachers, and not for the states' sake, or the kids, or the people of the state (609).

There was some feeling at the conferences that the need to angle successfully for scarce money takes precedence over other needs. This problem was identified implicitly in a question raised by a state director: "Do you plan to serve the needs of the people and then determine where the resources are to get the job done . . . or do you let the resources dictate how much planning you are going to do?" (698). While the view expressed here was somewhat later characterized as a "Utopian versus a practical point" (730), other conference participants also felt that it was a problem. Though by no means true in all cases (1014), the criteria for choice of action for planners are sometimes "based upon what they anticipate they are going to get . . .rather than upon . . . serving the needs of the people" (1019). In other words, planning seems to be "against constraints . . . rather than [for] the needs of the people" (1017).

As already noted, the definition and extent of "people needs" are not easily determined for reasons presently beyond the control of the planners. Inability to reduce current levels of uncertainty about program requirements, labor market demands and so on leads inevitably to decisions based on inadequate information. One state director told the conference:

> The kinds of criteria that would be used to make choices with respect to the way in which you invest available dollars are not used by vocational educators in any sophisticated fashion.

> . . . .We use subjective judgment, emotionalism, political pressure and all kinds of things to make allocation decisions (89).

As another state director suggested, "The history of planning is that the resource allocations have never been made on the basis of goals and objectives and plans" (385). The choice of where to put the money seems to be very strongly influenced by the choice of strategies used to obtain the money.

The question of commitment, both to a plan and to ongoing programs, raises another problem for planners. Because of changing political situations, shifts in goals, changes in administrations, and a host of other factors, the environment for planning is not static. Since any choice of action implies some loss of flexibility, planners can often find themselves committed to a course of action developed under one set of assumptions which is not appropriate for a set of goals and objectives developed under a later set of assumptions. The best defense against this problem is, of course, to remain uncommitted. Since this is not possible, planners are faced with a paradoxical situation which requires them to be both committed and flexible--a requirement which may well represent the central dilemma in making a choice of action.

Another problem for planners centers around the notion of accountability. Accountability is a means of defending the educational process by demonstrating the value of the educational product (102). The justification for resource allocation is one of the state directors' most difficult tasks. "This is probably the weakest area that we have. . . . We cannot under some of the present systems really demonstrate what in the blazes we did with the money" (53). Lack of planned accountability in program choices cuts both ways: it may protect the dubious programs, but it also denies hard evidence of success to evaluators and critics.

There are constant demands from all sides for information on how effectively the educational dollar is being spent. A congressional staff representative participating in the conference expressed a consistent request from the House Education Committee.

> I think the federal government should have on computers, for every dollar, where the federal money is. I think they should know by school districts where vocational education money is. They don't know that now. If we call down to the

> Office of Education to find out, they don't know, they call the states and ask them to give an answer. I think that is inadequate (252-253).

As already indicated, the governor of one state recently proposed the appointment of "an inspector-general for education to find out just what the educators are doing with all that money they are spending, because it accounts for one of the largest parts of the state budget" (53). Planners naturally respond with requests for more information on "what the nature of the product [is] you [are] supposed to turn out" (54-55). The pressure on vocational education planners to be accountable is not likely to lessen and is fundamental to the determination of choice of program.

The whole planning process can thus be seen as geared toward providing adequate information for the selection of appropriate actions to alleviate needs at the local level. The adequacy of any choice of action is, therefore, likely to be directly proportional to the adequacy of information on which the final choice was based. State directors at the conference were unanimous in noting that existing data are less than adequate for optimum decision-making.

Recommendations

Few recommendations were forthcoming on methodologies for the actual selection of a particular course of action, other than the computerized simulations for evaluation of alternatives mentioned in an earlier section. Some suggestions were made, however, concerning criteria for a plan. Two state directors referred to the need for flexibility in the choice of action.

> As the needs of the people change, that mission statement [had] better change. The objectives that we have stated, we'd better keep looking at them and they'd better change; and the plan for attaining the objective, as we get more sophisticated in technology . . . had better change (712).

> If you are so damned static that you can't shift, you'd better get out of the ball game. Businesses have to shift with economic changes and everything else. Education should shift. If anybody thinks you are going to logically plan in five-year and ten-year blocks and have it static until you get to the five-year and ten-year [points], you are just wasting your time (838).

The plan, therefore, should allow the implementors enough room for maneuvering, so that accommodation may be made for unforeseen contingencies.

> You should build the plan in essence so it has some ambiguity which allows the administrator some play to do what he thinks is important under a particular set of circumstances. One interpretation I might give to that is, a plan is simply a map for the administrator to do what he wants to do in the first place. . . . a plan [also] seeks to limit alternatives which are available in order to improve the decision-making process (141).

A further step in this direction is the specific inclusion of contingency plans. If a plan is considered as

> . . . a monetary decision concerning the allocation of all resources in order to achieve a goal which [appears] desirable, . . . then . . . if half-way [between the beginning and end of the implementation] there are changes which take place in the system--a very high probability in any system including the educational system--you have then a contingency plan which may affect either a small . . . or a major part of your original plan (147).

The participant noted in making this point that the military and business are very familiar with this kind of planning. Thus, in these "you very frequently find what we do not ordinarily find among educators, no sense of outrage in changing the plan. They are not interested in keeping to the plan <u>per se</u> as much as they are interested in achieving an objective" (147).

The need to accommodate change in the choice of a plan, however, must not negate clear accountability. At least one state director felt strongly that mechanisms for monitoring and evaluation should be built into whatever strategy the decision-maker may choose.

> You could build a nice beautiful plan and allocate all the resources and say this is what you are going to achieve . . . and unless you build in constant monitoring of the way in which those dollars are spent, against the activities identified, there are ways people can circumvent the plan and go back and do the same old thing that they were doing before you had a plan (127).

Accountability, however, need not preclude flexibility. The same state director acknowledged the subtlety of this relationship.

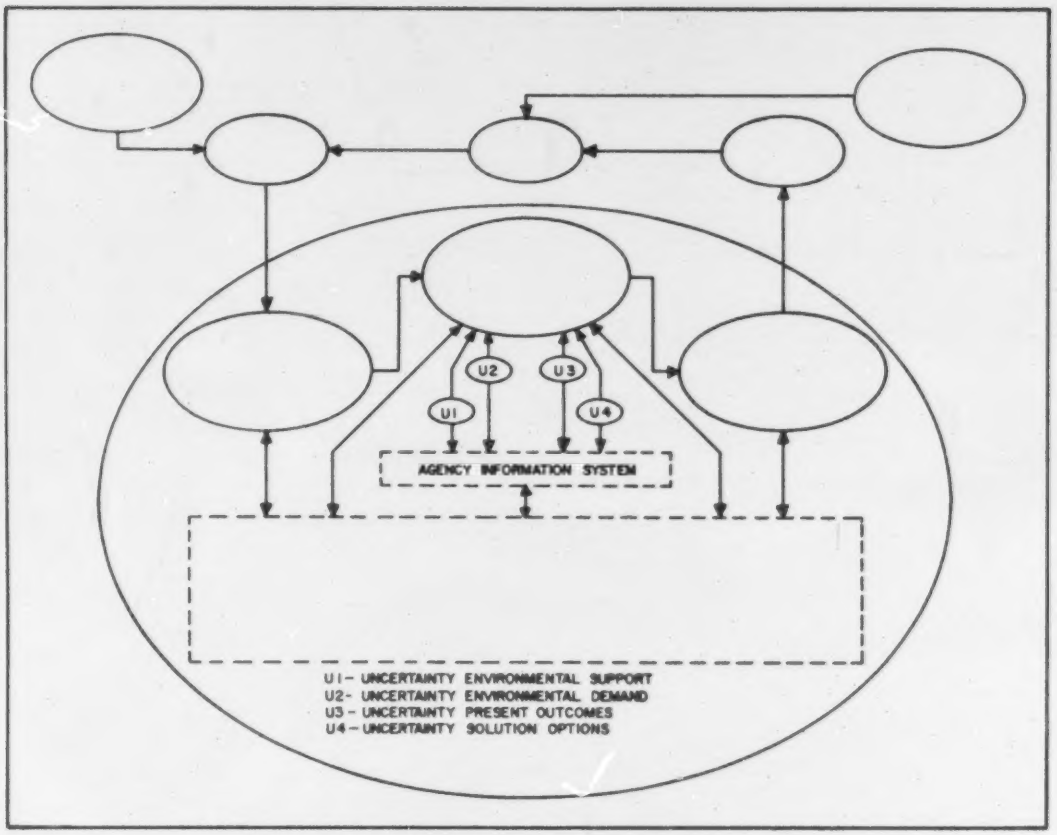
> In the present structure in which those of us who administer vocational education programs operate, and [with regard to] that particular kind of plan, . . . you can build a lot of uncertainty into it if you wanted to. I am not saying what you do. I . . . said I would like the plan tight enough, once those decisions are made, so that the bureaucracy that administers and implements that plan cannot circumvent the major decisions that are made (141).

Referring to methods by which states might hold education accountable, one participant suggested that "one thing to speed up this concept is . . . to have your state legislators . . . lay an accountability act on all secondary and elementary education programs" (800). While this has been done in at least one state, conference reactions to this were mixed. Another state director felt "that is a backhanded way to get at it. . . . I would hate to suggest we seek legislation to require accountability" (802-803). It should be pointed out, however, that this would be a very promising area for state agencies to police on their own by establishing accountability requirements for their own planning processes.

Finally, the choice of action process was summarized effectively by the chairman, who had consistently emphasized the need to plan first, and allocate resources according to the plan, second. (It is noted elsewhere in the present document that the reverse procedure may in fact be prevalent.)

> You are really identifying various strategies for attainment of specific objectives, and then . . . you place an evaluation on those . . . before you even think about . . . your resource allocation. You say, "If I could have my choice, this would be the top one, this strategy, that I would use. "Then you go down and look at your resource allocation and say, "Because of my limited resources, perhaps . . . to spread [them] out a little more, I will select a different strategy than I would have if I had all the resources I needed" (939).

THE MANAGEMENT OF INFORMATION



In appreciation of the diversity of occupational needs and opportunities across the nation, Congress has stipulated that the necessary information for planning be made available to vocational educators. Federal legislation of 1963 and 1968 makes specific reference to the collection of relevant data "for the use and guidance" of those responsible for vocational education. Funds are authorized both to the Department of Labor and to the states for research and for the gathering of information regarding current manpower needs and job opportunities. The law also requires that "effective use . . . be made of the results and experience of programs and projects" in vocational education. Each state, therefore, has some form or system

for the handling and management of information, even though the term "management information system" seems usually reserved for more sophisticated systems. The element in the present model which describes this function is labeled "agency information system" to denote its existence in all agencies of vocational education; the term management information system (MIS), however, was referred to by conferees in the form of general recommendations at the state and national levels.

It would seem that adequate provision was made in the Act and subsequent amendments for the planners' voracious appetite for information, and even for the ensured dissemination of important knowledge about current educational efforts in the field. However, the impression one gains from examining the literature is that not only is appropriate information unavailable, but present techniques for its collection are also inadequate. Predictably therefore, the chief dissatisfactions voiced at the conference were in this connection.

While some states have, or are initiating, sophisticated management information systems, many still lack the requisite resources or levels of expertise. Even for those able to handle large quantities of data by computerized methods of reporting and analysis, there remain a number of presently insuperable problems.

A few participants identified internal limitations concerning the handling of data within a vocational education agency. One state director noted the problem of constant reprogramming in computerized systems to meet continual new demands (207). Another pointed out a difficulty he felt he shared with other states in his inability to turn around information fast enough for optimal management decisions. Thus uncompleted programs, or those completed at a reduced cost, are presently not identified soon enough by the system to permit reallocation before the end of the year (585). Most of the discussion on data, however, centered on the need for improved methods of extracting information from the economic, social and educational environment--in short, how to obtain better data.

It may be impossible to legislate better data, and it is difficult even to define "good data" at all. A congressional staff member at the conference referred to the need for "some uniformity of thinking on what is good data" (279). There were differences between the specifics of good data that each vocational educator seemed to be seeking; state directors noted particular areas in their own states

in which they perceived a serious shortage of information, and a federal administrator, overviewing "all sorts of efforts . . . to try to pin down better information to make planning more realistic" assured the conference that "no one system yet . . . has all the answers," even the Employment Security Commission (1051). While it is not likely that vocational education will ever have all the answers, it is apparent that planning in the field is severely restricted by lack of important information. Moreover, suspicion about the quality of existing data leads in the end to further distrust for the accuracy of projections, and ultimately to decision-making in spite of data made extant in the state plans. According to a federal source at the conference, studies have shown considerable imprecision in the demographic data included in state plans, which do not "really reflect the characteristics of the population involved." The point was made here that it would be very difficult "to tie together" the planning and the decision-making processes on the basis of these data (443). State directors were in agreement over the deficiencies in data for decision-making purposes; one summarized his own view of a national problem this way:

> I am running into a blank . . . having to say last year to the State Advisory Council, "Here is our plan. Here are the projections of the occupations . . . [they] don't mean a thing. . . . . There is nothing that is tied to this that would be related to the areas of education . . . that would say anything more than a wild guess" (359).

While various administrators and planners had their own individual ax to grind, some general statements emerged from the conference. Some were in the form of observations, others were posed as questions. Good data systems are expensive (219), and their optimal use requires planning (387). Furthermore, examination of data, without clear and a priori models for selection and interpretation, is not enough: "The data by itself no matter how good it is won't give you the ultimate answer" (288).

The incompatability of data systems across states and varieties of techniques of local and state reporting may partly explain some of the discrepancies noted in interstate comparisons. The method of headcount, however, can lead to obvious inconsistencies where students are reported more than once under one vocational classification, when for instance, "one state comes up with more vocational students enrolled [in a particular vocational education category]

than there are in the school" (583).

In addition to these observations, a number of general questions arose. These came both from state directors concerning much needed information not presently available for planning purposes, and from other participants reiterating some of the evaluative questions currently being asked of education in general, and vocational education in particular. The requests for better information for planning are dealt with under subsequent sections in greater detail, though they are roughly summarized in one state director's words:

> There is a lack of external social data, . . . of social goal data, . . . of external economic data, and . . . of external economic goals, a shortage in terms of planning skills and techniques, a lack of internal statistical data . . . of internal fiscal data, . . . and lack of skill in the area of strategy for resource development and resource utilization (596).

The evaluative questions are also dealt with elsewhere in sections concerning the outputs and outcomes of the vocational educational process, though again, the questions of one conference participant distilled the general flavor.

> If I wanted to be really skeptical . . . I could say, "Well, why do you bother doing this? How can you show, how can you measure the effect of anything you are doing in vocational education? What are the measures of why you need to do this? How do you plan for it, and how do you describe these needs? How do you evaluate one method of approaching the need versus some others?" (1024).

The sum of all the statements and questions asked of and by conference participants reflects a large amount of uncertainty clouding the efforts of planners, and obscuring results. Any agency engaged in planning will seek to reduce doubts and ambiguities regarding the external world, thereby increasing its own store of experience and its ability to cope with the demands that the environment places upon it. Problems of inadequate data for vocational educational planning can therefore be conceptualized in terms of varying degrees of uncertainty concerning aspects of the external world, e.g., uncertainty as to Congress, state legislatures, and local, state and national occupational needs. The efforts of agencies to seek "better data" are no more than

concerted system efforts to reduce this uncertainty. These efforts may be classified as relevant to four areas of uncertainty already introduced in the description of the model, uncertainty as to (a) social and economic support, (b) social and economic demand, (c) present outcomes, and (d) future solution options. In relation to the present model, the efficient management of information involves identifying both overt and latent areas of uncertainty about the social and economic environment, and the identifying, collecting and providing of relevant information in such a manner that it reduces that uncertainty.

The effectiveness of information management is evaluated in terms of the degree of uncertainty reduction, the speed with which the agency may draw on past experience by accessing pooled information, and the extent to which that experience is useful for prediction in the social and economic environment. The kinds of information to which the 1963 Act and 1968 Amendments specifically refer are those of greatest concern to planners, coupled with information on present and future resource availability and legislative intent. Because of the difficulties, already mentioned, of making the present state planning operation explicit, the means by which state vocational education planners actively seek to improve the informational basis for decision-making are unclear. However, the chief problems in this regard, as expressed by conference members, are presented subsequently under the appropriate categories of uncertainty. The discussion treats the social and economic environment from the point of view of the agencies' uncertainty with regard to environmental conditions. This differs from the treatment of environmental conditions in earlier sections which dealt solely with the descriptive characteristics of the social and economic environment independent of agency uncertainty about these conditions.

Uncertainty Regarding Social and Economic Support

Vocational education agencies experience social and economic support in many ways, all of which concern those areas where the environment is receptive to the agency, or where it makes available attitudinal or indirect support, resources or information, or opportunities for service.

A particularly important area of uncertainty is in the nature of the relationship between state vocational educators or administrators and other state or national agencies (e.g., legislatures, manpower, education, labor, as well as numerous other agencies in both the public and private sector). One area of uncertainty regarding support in terms of relations with other agencies exists in the

interface between vocational education agencies at local, state and national levels, and between vocational education and other state educational or related agencies. From the point of view of a participant from USOE, there exists "at various levels . . . no articulation between local educational agencies, state agencies, regional offices and federal-level planning. That's one of the real problems" (700). A state director referred to the "separateness in planning" between agencies of general education at the state level as inhibiting the attempts of vocational educators to cooperate (23). Since education is often presented to the public in a single package in competition for dollars, this "separatism within vocational, [education] . . . and all the other educational enterprises, is a thing that is really plaguing us" (962). The existing commitment of some states to work under PPB systems within the total context of state education leads to a need for thorough communication, though another state director suggested that intrastate exchange of information among various educational agencies may be worsening. "I think we are going further apart rather than firming up good relationships" (1061). This deficiency in communication between agencies extends to those areas outside but immediately peripheral to education, specifically to other agencies involved in services parallel to vocational education. "There is practically no relationship between planning for vocational education and vocational rehabilitation and MDTA and the like, except . . . where people are good and . . . will get together" (494). The lack of interface between vocational education agencies and the whole dimension of education delivery systems and manpower constitutes "one of our biggest problems" (732). Considerable confusion is generated by this, and is reflected throughout the various agencies within vocational education, which are each aware of their commonalities in mission under federal law.

> We are talking about a program that is supported by the Congress. The program has a whole bunch of people, U. S. Office, state directors, Lowell's shop [AVA] . . . all concerned about the same problem. But what kind of communications, what kind of relationship do we have structured so that we are not fighting each other, but . . . are all working to implement that mission up there (1062)?

Another crucial area of uncertainty concerns the serious lack of knowledge of where to go to get data regarding job opportunities and manpower demands generated by agencies external to vocational education. This uncertainty is partly a problem of levels; generalizability of national data to the local level may be disastrous, since it is

possible to be "nationally prosperous and locally unemployed" (424). Therefore, vocational education programs justified on the basis of national figures may be entirely out of line with the actual vocational needs of a local area (426).

The relationship between training levels and job opportunities was also questioned. For example, what are "the trends in the social groups; are they moving up or down in the skill development area, and what [are] the other skill opportunities; can they get jobs, and what jobs are available; what kind of skill levels are available in these jobs" (624)? This kind of rhetorical question was common throughout the conference. It should not be inferred that there are no answers, but rather that the queries express a degree of uncertainty about the social and economic environment which can be resolved only by better information. For instance, a vocational education researcher noted the difficulty in obtaining data on job vacancies in specific markets (178), and a state director singled out the health field in his own state as unable to provide "any real lead data" in terms of manpower needs (178).

Planners need continual current and projected information on the job market. Ideally they "would like to see a sustained demand for the product of the vocational education system so that [they] did not have the . . . stops . . . starts and breaks" (504). Instead, however, they are restricted not only by the shifts in the market, but by the educators' concern for their product: "Am I training too many people in certain areas?" (402). State directors face "a growing concern about the matter of over-supply, and depressing the salary of other people" (402). Job development is not presently seen to be a national priority. "There is no place at the national level for moving with a job development effort which would guarantee young people coming out of school with a job. So I have to work in the limited framework of the particular data I have" (403).

Some uncertainty as to the direction and amount of future resource allocation is probably inevitable among planners. The impact of revenue-sharing, however, compounds present levels of uncertainty. There were differing reactions among state directors at the conference toward the expected effects of revenue-sharing, but the fear was expressed that states might end up with considerably less money than before (973). Doubt also exists about the focal point for distribution of revenue-sharing funds at the state level. Monies will probably not continue to be routed

through existing delivery systems for vocational education, but may be appropriated through the legislature.

Uncertainty Regarding Social and Economic Demands

The demands of the environment upon vocational education agencies are experienced primarily in areas of federal and state bureaucratic and legislative requirements, societal values, occupational demands outside the agencies' control and the needs of the various populations to be served.

Federal legislation plays a large part in vocational education as it exists today. Definitions and statements of purpose are written into the law, and federal guidelines are provided to further assist the state planner, yet there is still confusion about these central concepts. Some of this uncertainty has already been referred to earlier concerning precise definitions of vocational education. The problem with defining vocational education as training for employment is that "you are including in your definition all programs run through VA, Labor, [and] Commerce" (697). One state director clearly equated manpower training with vocational education (754), yet another pointed out that of 26 million dollars coming into his district for manpower training programs, only "1.5 of that 26 million is [for] vocational education as the '68 Amendments define it" (698).

These ambiguities lead to questions of professional identity that even "keep coming up in the [AVA] Board meetings," as to "What is vocational education? Who are we? How do we describe ourselves to other people? What characterizes us? How do we join together? What are our goals?" (39). Regardless of the definition in the 1963 Act, there are some even within the USOE who see vocational education as "preparatory training at the secondary level, period" (734). This confusion is also apparent at the state level, where differing definitions of vocational education among states make it difficult to determine from one state to the next what is, or is not, a vocational education student (795-796).

It is not therefore surprising that "there is a great lack of understanding on the part of a lot of people as to what we are trying to achieve" (189). Misunderstandings as to the definition extend also to the mission of vocational education. There were opposing views aired at the conference in reference to the clarity with which the purpose or mission of vocational eduation was expressed in the 1963 Act. One state director felt the intent was clear: "I thought most of the states knew pretty well where we were

headed, and we were all in just varying degrees of achieving it" (680). Another participant felt "we have stated the mission pretty clearly in the Act . . ." (738). However, an administrator from OSOE stated that "Congress is obviously confused about the purpose of the 1968 Amendments" (693) since they mandated under Title 10 of the 1972 Act that there had to be infusion of occupational education at all levels, which was already written into law in 1968. The motive of Congress may have been to emphasize this, but the mood of many of the conferees was summarized by a state superintendent, that there is a "tremendous need to get that mission statement clearly laid out so state plans can reflect [it]" (693).

Uncertainty about the national mission for vocational education inhibits state planners in the setting of missions for their own states. The extent to which the setting of state missions should reflect the federal purpose is also unclear. One participant said that "the state has to state its mission itself without regard to the federal intent . . . [which is] for the expenditure of federal funds, not . . . state monies, except those that are matched" (436). Taken literally, this suggestion might inevitably contribute further to the already fragmented national picture of vocational education.

The relationship between vocational education and Congress has considerable bearing upon the state-planning process. There is currently some doubt as to whether state plans will continue to be required in the event of revenue-sharing (968). Although the state plans may be seen as a means of educating the legislatures on the needs at the local level, there were strong suggestions that Congress is not getting the data it needs. State directors however are unclear as to what constitutes important data for Congressional purposes (278). Since Congress is apparently not staffed to handle large quantities of data (281), vocational education planners at the state and federal level are concerned that important information is not presently gathered, for example, on those vocational education programs not supported by federal funds (738).

Planners are also inhibited by uncertainty about the stability of political and administrative policy throughout vocational education and related systems. "The biggest deficiency . . . is the stability of the staff, and the stability of the goals, at the national level, that must be reflected in state planning" (545). Probably more notable at the federal than at the state level (544), some of the changes in requirements have been identified with significant frustration among state vocational educators,

particularly the 1972 introduction of EPDA, and the addition in 1973 of voluntary firemen and industrial arts (1001). One participant emphasized the need for some stability in statutory requirements. "It took three or four years for the 1968 Amendments to be meaningful in the states. If every two, three, or four years we change our goals and plans, we never really ever have any real planning going on. It takes that long to learn the technique" (450).

Information downward from the national level is important to state planning, particularly with regard to evaluation and accountability. Feedback from USOE via the regional offices, however, is lacking concerning the state plans. There is "very little go-between as far as state planners are concerned between the regions and USOE" (292). Doubt exists that state plans are adequately surveyed and evaluated (292). Mathematical errors are corrected but "actually they don't comment . . . with respect to the way in which I plan to spend my money" (237). The federal government has substantial power over the approval for state plans, but has rarely used it (247). Closer evaluation and accountability of state plans was welcomed by one state director: "At least I would feel that somebody [was] . . .holding me accountable for what I was going to do, and challenging the decisions I make" (244).

Probably the most significant area in which conferees expressed the uncertainty of the state planner concerned information about the populations to be served. The purpose of data collection is generally to improve the basis for decision-making. There was consensus at the conference in the conclusion that present techniques for data collection and analysis on the needs of the populations to be served are inadequate for planning purposes. One participant phrased the uncertainty into a series of questions. "What are the [populations] you are being held accountable for? What are their characteristics? What are you going to do with them, in what period of time, at what cost" (586)? The 1968 Amendments designated the focus of vocational education to be on "the relative vocational education needs of all population groups in all geographic areas and communities in the state," with special emphasis on the handicapped [SEC. 123 (a) (6) (c)]. That broad designation is open to wide varieties of interpretation. Thus "you have some very real problems, as to adequate data, and knowing the characteristics of the population you are concerned about" (628). A state director indicated the lack of information concerning groups of particular importance: "We don't know who the disadvantaged are" (223). Above all, state directors need to know "what does the society want from vocational education?" (598). One participant succinctly

summarized the difficulty: "I will bet dollars to doughnuts I could not get out of any planners . . . what I regard as a satisfactory statement of the population to be served, their characteristics, and the future states of those populations which are supposed to brought about by . . . vocational education" (670).

There is an associated lack of information regarding the interface between "people needs," training and job requirements. "We train people in such a way . . . that they are going to be better able to get jobs, and we look around at national trends and metropolitan trends or state trends, and we estimate what the jobs are going to be; but it is not clear [what] the relationship between the training and the job is" (1034). Training for employability requires sound knowledge of both individual aptitudes and desires, and the specific requirements of the widest possible range of jobs for which there is a foreseeable demand. Reliable information is scarce on all these counts. Job demand naturally fluctuates, and the specifics of job requirements, in terms of skills, are not widely available. One conference member said he felt it would be "downright irresponsible for somebody concerned with a vocational education program not to get into . . . job analysis, with an understanding of the structure and the technological changes, and to have some notion as to what the forward prospects were with respect to the kinds of skills you are training people for" (615). For the vocational educator, "it is kind of tough to train people for a job when you don't know what the requirement is" (523). A state director noted that although he had been willing to pay for it, he had been unable to find "a single damn job analysis in the country" that he could use. Those that he had found were "fine for employers to look at, but not . . . for instruction . . . I need to know what are the skills . . . and I need to build this into a curriculum" (524).

Uncertainty Regarding Outcome

The outcome of the state-planning process is a result of the interaction between the planning process output and the environmental support provided. As noted earlier, in the description of the model, outcomes may take many forms. For instance, a student may be the outcome of the interaction of a plan for action with the environmental support represented by the local education agency. Alternatively, a local advisory council for vocational education may represent an outcome formed by a directive to a LEA to form such a council, the support of the LEA itself, and the community support represented in the people who sit on the council. The extent to which the outcome of the

planning process advances a more satisfactory situation than the one initially identified by the agency under its mission is the extent to which vocational education is successful. Uncertainty with regard to outcomes, therefore, refers to the questions which planners have regarding whether or not the outcomes which they desired from their planning process have actually been attained. In general, the comments of participants relevant to this area of uncertainty dealt with the student as an outcome of the planning process, and the relevance of training for the needs of the people. Within these two areas of concern, the topic most often expressed was accountability.

As previously noted, the 1963 Vocational Education Act and subsequent amendments have superimposed a purpose of ready accessibility over that of employability mandated in earlier acts. This implies that vocational education is accountable in two ways: first, in how well the vocational education program offerings meet the needs of the people "in all geographic areas and communities in the state," and secondly, how well the vocational education product (e.g., the individual after training) meets the economic and social requirements of the environment. The statement of purpose of the 1968 Amendments makes only an oblique reference to employability: vocational education training is required to be "realistic in the light of actual or anticipated opportunities for gainful employment" (SEC. 101). There is thus considerable latitude for discussion on exactly what the impact of vocational education is, or is expected to be, leading to what in terms of the present model is described as uncertainty regarding the outcome of the state vocational education planning process.

Early in the conference, it was suggested by one participant that the vocational education product can be separated into two components, "the product when [the] youngster finishes school, and the product after he has gone into society. I think we fail to distinguish those two things" (58). Thus in a program of vocational agriculture, for example, if an evaluation is phrased in terms of the student's performance during and immediately after completion of training, the product may be judged as satisfactory. However,

> even though that youngster five years later is not in vocational agriculture doesn't mean vocational agriculture hasn't done its job . . . we used vocational agriculture not as an end result, but we had a youngster who was interested in agriculture, and we used his interests in agriculture to train him on other skills so that

> when he wound up as a teacher of business education, let's say, he was able to use those skills that he got because of the training . . . . in vocational agriculture (59).

This view, that vocational education may be used by educators as a means, not an end, was expressed more than once, its proponents suggesting that vocational education programs were capable of teaching more than just skills limited to one field alone, and that evidence of vocational education students placed in employment other than that for which they were specifically trained is not necessarily indicative of failure of training. The contrasting view to this refers to the problems of limited resources and accountability: "You had better be able to answer to me, if you are the guy setting that up, that this kid is going to wind up not in vocational agriculture because there aren't any jobs . . . you'd better be able to prove that" (60). Furthermore,

> the guy who is planning at the state level to provide people with employment skills has enough of a headache trying to plan for that without bringing in the overall plan of "am I going to turn out someone who is . . . the finest type of citizen around?" (63).

In determining whether vocational education dollars have been well spent, and a satisfactory outcome attained, the chief source of uncertainty is lack of hard data on the results. One state director indicated this problem: "We don't have the measurement devices to tell us whether we have achieved what we set out to do with that money" (53). Another chief state administrator alluded to the difficulty in enacting effective follow-up studies to produce the necessary data. "One of our major problems [has] been . . . the technique of maintaining a follow-up; you do well the first year, and then you lose [it]" (788). While some states seem to be producing adequate evaluative data, sound evidence of achievement of purpose seems to be generally lacking in vocational education. Individual state directors indicated some satisfaction with efforts in this direction in their own states: "I have one data system; and GAO said it was the only one they looked at that they got honest data out of . . . they said our operation gave unduplicated count, and reasonable figures" (582). Two other state directors expressed optimism with regard to present or planned systems of follow-up in their own states. However, the premise of some recent studies on vocational education has been a critical one, and vocational educators

find themselves hard put to countermand the charges. A federal vocational education administrator put it this way in reference to one such study:

> Those of us [who] have a positive belief about vocational education have very little positive data [with which] we can counteract the kinds of statements that appear in this kind of study . . . it [says] the program received by high school students has been of no value. We know better than that, but we don't have the kind of data necessary (707).

Some states represented at the conference have found that sophisticated management information systems may remedy much of the uncertainty associated with the eventual outcome. However, at present, refutation of these negative evaluations is difficult. "I am doing an analysis of that [study] trying to find ways to counteract some of the things that were said in there and it's hard to come by" (709).

In reference to this same study, one conference participant summarized the problem:

> you have not got hard data on which to have a defense of your position and . . . no matter what you say, and no matter how much you believe in what you are doing, people are going to write this stuff, . . . and you are going to say it is not true, and they are going to say "prove it!" (1033).

Uncertainty Regarding Future Solution Options

While no substantial conference discussion was generated in this area, it is nevertheless too important to be excluded from any model of the planning process.

Each choice of action is expected to produce both short-term or immediate outcomes, and long-term, or perhaps even unforeseen ones. Furthermore, both classes of outcome may in some way affect the future solution options of the planner. That is, a planning decision to go with a particular option will interact with present and future states of the social and economic environment to inhibit or facilitate future planning decisions in the same, or related areas. In short, uncertainty regarding future solution options implies uncertainty regarding the possible effects that any decision made now will limit or expand the field of choice in the future. For example, the decision to construct a specific physical facility, by the precise

nature of its design, might affect considerably not only future decisions regarding the use of that facility, but conceivably also a significant field of related decisions. Therefore, the degree to which current planning choice will mediate upon related decisions in the future forms the fourth important area of uncertainty for the planner.

There are few examples of this in the form of direct textual references from the conference, and the corresponding lack of specific discussion may be due either to insufficient direction from those who called the conference or to the insignificance accorded this element in the planning process. As mentioned earlier, the 1963 Act authorizes first the maintenance of ongoing programs, with emphasis on their extension and improvement. Planners are, therefore, faced with the knowledge that once initiated, programs that prove ineffective or eventually outdated beyond hope of reasonable amendment may be difficult to terminate. It is at this point that the planner's awareness of possible foreclosure on future options becomes a factor in planning. Uncertainty as to the precise effect of present decisions on future options may lead to some hesitation to commit the agency to a particular course of action. Thus,

> you might plan not to have a plan, and it might appear that you have no plan, but what you may be doing is very wisely maintaining open options until the point that you have enough information on the basis of which you can come up with a more rather than a less rational plan (131).

Recommendations

Since agency information systems vary in sophistication, there is considerable variation in individual states' access to meaningful data with which to plan. Thus, a state director with one of the most advanced systems in the country asked: "Even without a sophisticated MIS, don't you think the school people and the directors of vocational education in your cities are familiar with the employment patterns and the employment needs of their particular area?" The answer, from the chief education officer of a state in the process of developing a similar system, was: "They are working hard at it, but . . . when a guy says 'show me what you are doing, can you prove it?', we can't prove it" (708).

The need for concrete and reliable data was perhaps the single most strongly expressed need in the conference. Recommendations were then phrased in terms of their general

need for information, reflecting the four areas of uncertainty already referred to in the model.

One state director requested better access to existing data sources in asking for "a closer tie, at both the national and the state level, between those of us in the delivery system, . . . and those who are analyzing the job market" (809). Another participant indicated the necessity for offsetting the present negative effect on vocational education of existing critical studies by more accurate forecasting methods; "for planning purposes you need to know what is going on down the road, what's going to be the social trends, what are the economic trends" (709). A conference member from the federal educational administration noted the consistency of state advisory council reports in their evaluations of state planning: "They say your data is not adequate, your planning is not adequate . . . [and there is] inadequate evaluation" (1081). The recommendation, therefore, is for better means of analysis, since "planning [is] a cyclic event, the results of one year ought to feed into the planning of the next" (1081). Most states are presently unable to manipulate data with sufficient speed to make this possible. Two states represented at the conference, however, evidenced both workable and highly sophisticated MIS. The implications for follow-up using these kinds of systems have already been introduced in the recommendation section on social and economic support.

The necessity for facilitating transmission of information on both methodologies and actual data to other states was pointed up early in the conference.

> The key function . . . is to begin to establish the mechanism for transferring information on what has been done successfully in one state out into the boondocks, . . . wherever they are not utilizing the state-of-the-art, . . . what has been learned (218).

Planning information does not cross state lines as freely as it might. One experienced vocational educator offered as his own interpretation that "every state has jealously guarded the right to develop planning in terms of its own perspective . . . I don't know whether this is a viable strategy [but] I think the precedents have been established" (813). Thus, in reference to those states with MIS already in advanced stages of development, this participant expressed doubt about the generalizability of such systems beyond the originating state. "I am not too sure to what extent they will cross state borders. I suspect each state

will want to develop its own [MIS]. I think that is one of the things that is characteristic of social science agencies" (814). One of the state directors, however, stressed that not only was information on his system readily available through USOE (793), but that "we have got a lot of interest shown already" (797) in terms of recommendations to other states.

It was suggested that some form of national MIS or clearinghouse for information should be established, possibly serving as well the function of a kind of Educational Bureau of Standards (796). Some of the characteristics of a national MIS were outlined by a vocational education researcher:

> We . . . need some sort of follow-up system, and . . . perhaps a way to get some commonality is to recommend that the essential ingredient, or the minimum amount of data that has to be gathered be set out, and then . . . possibly also creating a clearinghouse of various materials and documentation of all the existing systems so that states can take a look. They may want to modify these systems, or lay them together, or take one and install it, but all of the time keeping in mind the minimum [data requirements] that have to be picked up (803-804).

The need for some national direction in the specification of minimum data requirements was underscored by another participant. Beyond this, each state director would be free to work with whatever further kinds of data he wanted for the operation and evaluation of programs in his own particular state. "But the thing that I see we need desperately is for [USOE] to say 'these are the minimum data requirements we need for decision-making, to afford information . . . to the Hill for legislation'" (816).

Two conferees noted diminishing financial support forthcoming for state MIS. In the event of withdrawal of federal funds for the development of state agencies, "then our MIS either goes down the drain, or we pick it up with massive state support" (708). From a federal point of view, the picture is similar: "Whenever you try to get money tagged for a MIS, . . . you could never get anything through . . . there have not been efforts behind making this kind of decision-making support available" (1081). The implicit question present throughout the whole conference was, therefore, raised in the concluding meeting: " . . . should [we have] a kind of national program, a kind of national strategy for providing information, for defining it, and

[for] indicating what needs to be done?" (1072).

While there appeared to be consensus on the need for such a system in close relationship with the state planning processes of vocational education, there was also the associated apprehension that accompanies any suggestion of federalism: "No educational program in America should be nationalized and I suspect that most of us would agree to that" (1073). Thus in the recommendation for a form of national MIS, no clear locus of responsibility was established by this conference. There was disagreement as to who should pick up the tab, reflecting the paradox which is inherent in the need for information management beyond the state level on the one hand, yet applicable to, and recognizing the particular circumstance of individual states, on the other.

SUMMARY OF RECOMMENDATIONS

1. Generate a better statement of national mission for vocational education.

2. Seek the establishment of a national manpower policy.

   A. Ask the President to form an independent group to set up this policy.

   B. The American Vocational Association should help to get a number of groups together to call on the President to set up such a panel.

3. Establish student follow-up systems similar to those in New York and Pennsylvania where records are kept by social security numbers. This should be done on a nation-wide basis, and should involve, for instance, the cooperation of the federal government in obtaining job titles and other information on individuals from the federal income tax form.

4. Each state should develop its own clear-cut mission statements for vocational education.

5. Vocational educators should attempt to secure tentative agreement on a unified set of concepts relating to vocational education as a means of presenting a cohesive picture of the field.

6. Because planning is a dynamic process, vocational educators should be prepared to change their missions, goals and objectives as circumstances warrant.

7. Goals for vocational education should be stated clearly so that people can understand them--not in technical terms.

8. The setting of goals should be the responsibility of those in a decision-making capacity.

9. State agencies should work toward internship, inservice, and on-the-job training programs for planners.

10. Develop goals which are not too sensitive to changing political considerations in order to achieve some stability for the planning process.

11. Retain some flexibility in any plan.

12. Pay closer attention in planning to the consideration of alternative means for the achievement of objectives by:

    A. wider involvement of appropriate external interests,

    B. access to information management systems at the state level, and

    C. computer simulation of alternative strategies.

13. While allowing for flexibility in plans, particularly long-range, ensure that accountability is built in.

14. Consider the possibility of legislating accountability at the state level.

15. Plan by objectives, and then allocate resources accordingly, rather than vice versa.

16. Work to make more readily available to planners the information they need to plan.

17. Increase the dissemination of information concerning the operation costs and scope of existing state management information systems.

18. Develop a national management information system with suggested capacity for follow-up and forecasting.

19. Define, at the national level, some minimum data requirements for states.

20. Seek continued support for state vocational education agency improvement to afford opportunities for the development of state agency information systems.

APPENDIX A

CONFERENCE TASKS AND OBJECTIVES

The original purpose of the total conference was to identify specific objectives of state-level planning for vocational education, and to recommend ways of achieving them. Conferees were presented with six tasks:

1. To state the purpose and objectives of state-level planning.

2. To determine current deficiencies in planning policies in terms of the objectives in (1).

3. To identify the causes of these deficiences.

4. To propose and evaluate methods of alleviation of the deficiences.

5. To recommend strategies for implementing the proposed methods to achieve the objectives in (1).

6. To design an instrument for assessment of state-level planning.

Based on the above structure, therefore (though the sixth task was eventually dropped), it was intended to look for problems, and to derive some recommended solutions. Ultimately, it was hoped that a set of guidelines for planning would emerge in the form of some essential elements in the planning process as synthesized by conference participants, i.e., practitioners, researchers, and theorists in the field of vocational educational planning. This proved to be no small undertaking: the conference was attempting, as one member suggested ". . . to try to put some structure on a very elusive thing" (862). Although each of the three conferences dealt in some measure with all of the first five tasks, the first two addressed themselves primarily to tasks 1 to 3, the third conference being left with tasks 4 and 5.

Discrete Steps in the Planning Process

From the transcripts of the first two conferences, the DASP staff produced a document for input into the final meeting. This outlined nine steps in the planning process, and, in keeping with conference objectives (2) and (3), some of the current deficiencies associated with each step, and some causes for these deficiences. It remained for the

final conference to carry out tasks (4) and (5). Many recommendations were forthcoming and more were discovered later from careful analysis of the earlier transcripts though these were not completed for each of the identified nine steps. Included in this appendix, therefore, are the original "nine objectives in the planning process", some of the problems associated with these steps, and some recommendations and solutions as identified by the first two conferences. The third conference, while adding several recommendations to this document, took issue with the nine steps and their phrasing. They subsequently recommended collapsing the "nine steps" to "seven elements" of the planning process; these also appear below. It should be pointed out that the first of these two products, "the nine objectives", was a product of the DASP staff after an analysis of the first two conference transcripts. The second was the direct output of the third conference as a result of discussion on the "nine objectives".

The reasons why these two products appear in the appendix and do not form the backbone of this report are the following:

1. State directors in all three of the conferences were skeptical about a cookbook approach. "Any good planning manual will give you the same kinds of things we are talking about. I don't think we are going to come up and rediscover America this afternoon" (857). The feeling of another state director was that the steps of scientific problem-solving could be taught in five minutes, but that success in planning was more likely to lie in the ways a planner used his judgment (422). Still another emphasized the disparity between academic planning analysis and actual operation in the field. "You can have all the conferences you want on planning, . . . you could run seminars and put in three-semester-hour graduate courses on planning and still, in my judgment, not . . . produce a planner" (324).

2. There were considerable differences of opinion regarding the semantics and sequencing of "steps" in the planning process among conference participants (e.g., 946-7).

3. There seemed to be an unclear distinction between process and product in following through from the nine objectives to associated problems in the recommendations. In retrospect, it is also unclear exactly what in "the nine steps" are descriptive, and what normative, statements.

4. It became apparent during the conference that we probably had interested more audiences than we could serve

just by one document. Practitioners seemed to expect one orientation, researchers another, and those responsible for representing vocational education to Congress another.

5. It may have been too ambitious to expect solutions from those so familiar with the problems. If answers were to be forthcoming from mere discussion, it would be unlikely that the problems identified with such wide consensus in the three conferences would have remained so acute.

Thus, the conferences elucidated more the problems in the field than the answers, though some solutions were recommended.

THE NINE OBJECTIVES

The purpose of planning as defined by participants to the first two conferences was: to prepare for some future commitment of resources in accordance with state vocational education goals. Attention was directed toward planning as currently practiced by state agencies for vocational education. Distinctions were drawn between planning for compliance with federal regulations on the one hand and planning for the achievement of state vocational goals on the other. It was the consensus of the conferees that compliance planning alone neither fulfilled federal intent nor contributed to the achievement of state goals. Although the state vocational educational agency was defined as the system of interest, it was recognized that the relationships between state and state, state and federal, state and local, and between different intra-state agencies are crucial in the process of planning.

Objective 1. To identify the mission of state vocational education

Among those factors necessary to the identification of the mission for state vocational education are: a statement of mandated intents and legislative constraints; a clear identification of the population or populations to be served; a statement of the general scope of possible educational activities which could be undertaken to serve the population; and a definition of the ultimate purpose of state vocational education.

Deficiencies. At present, the deficiencies existing in relation to this objective seem to be cast as the absence of the factors associated with the fulfillment of the objective. Missions are vaguely stated and do not appear to reflect adequately the federal intent. There are no statements of mandated intents or legislative constraints.

populations to be served at the state level have not been adequately defined at the state level.

Causes. (1) There is no articulated national plan for vocational education. (2) There is no overall national manpower policy. (3) Shifting administrative personnel, philosophies, and political priorities at the federal level make continuity difficult. (4) Relevant social and economic data and forecasts at all levels from local to national are scarce. (5) Immediate pressures pre-empt commitment to long-range objectives at both state and federal levels. (6) Interpretations of the 1968 Amendments are various. (7) There is a lack of coordination between the various state agencies and between federal and state and local structures.

Remedies:

1. The development of effective management information systems at the state and national level.

2. Accurate forecasting of social directions and trends.

3. More emphasis upon the process of planning and the tentative nature of mission statements.

4. The involvement of wider sources, agencies, personnel at all levels in the derivation of state mission statements.

5. Clarify interpretations of existing mission statements that are stated in law.

6. Clarify the definitions of vocational education across all levels.

7. Clearly identify constraints at the national level.

8. Establish clear national manpower development policies and plans, and explicate the relationship between these and vocational education.

Objective 2. To determine goals in terms of expected outputs and outcomes

In order to fulfill this objective, a number of separate factors might be necessary. There should be documentation of both societal needs and the needs of the populations to be served. Furthermore, there should be statements describing the goals of state vocational

education derived from the mission, how these goals relate to the mission, and a description of the process by which these goals were selected. In addition, the set of assumptions underlying the goals should be clearly stated.

Deficiencies. Currently, goals are not clearly linked to either population needs or societal needs. Goals are generally associated with immediate outputs rather than long-range outcomes. There has been little or no identification made of the trade-offs between societal and individual needs. Indequate attention is paid to the student after he leaves the educational system.

Causes. (1) Inadequate data on population and societal needs frequently lead to the selection of inappropriate goals. (2) Lack of data on employment trends encourages short-term goals. (3) Goals often reflect a political bias and are likely to be modified following a change in administration. (4) Goal setting at the state level is constrained by federal and local priorities. (5) Federal and state budgets for vocational education are inconsistent with stated goals.

Remedies.

1. Goals should be unequivocally defined according to needs of clientele populations.

2. Because planning is a dynamic process, goals should be capable of change, while not so flexible as to cause instability.

3. The setting of goals should be the responsibility of those in a decision-making capacity.

Objective 3. To set priorities for goal achievement

Factors associated with this objective would include a method of setting priorities, a ranking of goals in terms of those priorities, and a justification of those priorities. Moreover, there should be an examination of the possible conflicts between goals.

Deficiencies. There appears to be little effort made toward making explicit the assumptions upon which priorities are based. Federally stated priorities are often times incongruent with the federal funding structure. There is also a tendency for priorities to be determined by funding rather than the reverse.

Causes. (1) Federal priorities are superimposed on the states. (2) Conflicts exist between federal, state, and local priorities. (3) Priorities are frequently based on educational fads rather than needs. (4) Priorities are shifted by administrative changes. (5) Explicit statements of priorities are often politically inexpedient. (6) Social benefits cannot always be cast in economic terms.

Remedies

1. More adequate measurement of social needs by means of better data.

2. Plan according to the "zero budget" concept.

3. Set priorities first on the basis of needs, and then determine how resources will be allocated to meet those needs.

4. Involve more people at the state level in the setting of priorities.

5. While paying close attention to federal priorities, seek for other inputs in the setting of priorities.

6. Negotiate openly different points of view.

7. Document the processes the state departments of vocational education go through in developing priorities.

8. Goals should be established at different levels in anticipation of partial funding, so that the relationship is clear at the outset between levels of funding and level of operation.

Objective 4. To operationalize goals in terms of objectives

Operationalizing goals should include measurable objectives corresponding to each goal and a statement of how the objectives were derived from goals. Explicit statements should be made as to how and when these objectives will be measured. Attention should be paid to the interrelationships of objectives within goal areas. Finally, there ought to be an identification of objectives which apply to more than one goal area.

Deficiencies. Objectives appear to reflect ease of measurement rather than relevance to a particular goal. A rationale is generally not provided for the relationships

between objectives and goals. Finally, national goals are not translated into objectives at the federal level.

Causes. (1) It is difficult to state precisely what effect a given program will have on a given population. (2) There is a lack of instrumentation to measure the attainment of objectives. (3) Objectives have not been set to reflect contingencies in the funding level. (4) State level objectives may not satisfy federal and local goals. (5) Objectives generally emphasize program implementation rather than student behavior.

Remedies.

1. Develop a more comprehensive common terminology of planning.
2. Devise means of measuring achievement on (a) goals, (b) objectives.
3. Ensure that objectives reflect the different levels of goals which correspond to different levels of funding.
4. Train planners in distinguishing between goals and objectives.
5. State objectives in specific measurable terms with a view to future accountability.
6. Identify data elements needed to ascertain progress toward success.

Objective 5. To explore alternative methods for the attainment of objectives

Alternative methods for the attainment of each objective should be stated and a description should be provided of the process by which these alternatives were generated.

Deficiencies. At present only a limited range of alternatives is explored and there is inadequate communication between states regarding successful and unsuccessful alternatives. There is no generally agreed upon criterion for program success. Existing job descriptions are insufficient for the design of adequate training programs.

Causes. (1) The various data formats used by the states inhibit the comparison of information. (2) Local resources, community and institutional, are inadequately identified at the state level. (3) Legal and administrative requirements constrain the alternatives available. (4) Present plans reflect mainly committed resources.

Remedies.

1. Make widely available information already existing on alternatives.
2. Develop and cost out alternatives through computer simulation.
3. Decide whose responsibility it would be to develop such simulations nationwide, e.g., a research center, USOE, etc.
4. Encourage free thinking, e.g., the development of theoretical alternatives free from resource constraints.

Objective 6. To evaluate alternative methods for the attainment of objectives

The criteria and standards used to compare and evaluate alternatives and the constraints associated with each alternative should be specified. In addition, there should be assessments of the costs and benefits associated with each alternative as well as the probabilities of attaining the objectives for each alternative.

Deficiencies. Current planning processes reflect neither an explicit evaluation of alternatives in terms of their costs and benefits nor assessment of the probabilities of success of alternatives.

Causes. (1) There are inadequate data about the probability that an alternative will be successful, in part because of the lack of communication between the states. (2) The benefits of social goals are difficult to quantify in terms of dollars. (3) Inadequate information about societal needs precludes the setting of standards and criteria used to compare and evaluate alternatives. (4) In comparison with the number of alternatives available to state planners, there is not enough corresponding evaluative information.

Remedies.

1. Develop a procedure for the careful assessment and dissemination of all alternatives already in use, with special attention to the format of these data in order to facilitate communication across states.

2. Define whether this information gathering process should be a state or national responsibility.

3. Ensure wider involvement of external agencies in the assessment of alternatives.

Objective 7. To evaluate strategies for resource allocation

This should include a description of the alternative strategies considered for the allocation of resources, and the resource allocation procedures used. There should also be a projection of the costs and benefits made for those alternatives selected.

Deficiencies. Resource allocations are now by line items rather than objectives and no attempt is made to specify the strategies used for allocation.

Causes. (1) Accountability is imprecise. (2) In certain cases, resource allocation is by federal mandate. (3) Political pressures may preclude the disclosure of the resource allocation strategy.

Objective 8. To develop a plan of action to fulfill the objectives

This objective includes four factors: the presentation of a five-year budget for the expenditure of resources by objectives; development of a projection of the expected benefits over time by objective; development of a schedule of activities necessary to achieve each objective; and identification of delivery units responsible for achieving each objective.

Deficiencies. There is presently insufficient planning at the state and local level. Current plans provide no projections across time in terms of costs and benefits nor are there schedules of activities for the implementation of the plan. Furthermore, the implementation of plans is not specified by objective, and there is inadequate description of the activities necessary to achieve objectives at the state and local levels.

Causes. (1) There are insufficient resources allocated to the planning process, and little immediate reward for planning. (2) State and local level staff often have inadequate planning skills. (3) Existing organizational structures do not support planning by objectives. (4) "Indirect" costs are highly visible as the result of recent federal requests for submission of separate plans for their expenditure. (5) There has been a recent reduction in federal allocations specifically to planning. (6) Institutional teacher education (e.g., in universities) is not sufficiently oriented to demonstrating the importance of planning. (7) There is too little communication between the academics in teacher training and state and local practitioners in vocational education. (8) There exists presently a lack of techniques for defining optimal organizational structures for state planning agencies and information on how to move towards more optimal organization.

Remedies.

1. Initiate inservice training programs for state planning staff.

2. Ensure closer liaison between state department of education, higher education, and the local education agencies.

3. Analyze the present state planning process to ascertain to what extent resources are currently allocated to planning from either state or federal monies.

4. Appoint competent planners to the staffs of both state education agencies and local education agencies.

5. Ensure that flexibility is built into a plan.

6. Ensure that accountability is built into a plan.

7. Develop through the Office of Education, or the American Management Association a briefing process for planners or a series of technical assistance teams to each state.

8. Develop and recommend to the Office of Education their role in providing leadership and training in planning.

9. Further develop a state agency role in helping locals how to plan, or get outside help to improve planning at the local level.

Objective 9. Implementation and maintenance of an up-to-date plan

There should be a system of accountability, and the description of this system should identify the information which will be used by this system according to objectives. There should also be a description of alternative plans provided for identifiable contingencies. Finally, there should be a plan for improving the planning process itself.

Deficiencies. Present plans bear little relationship in some states to what actually gets implemented. Current planning manifests an inadequate monitoring of processes at the local level, a lack of communication between planners and implementors during the implementation period, and a lack of data on the achievement of objectives. Furthermore, information concerning unspent dollars is not received in time to reallocate those dollars during the same fiscal year.

Causes. (1) Program activities are frequently justified in terms of head counts rather than man-hours of instruction. (2) Population mobility makes follow-up data difficult to obtain. (3) Differences between state and local objectives inhibit communication from the implementors. (4) The costs of continuous monitoring of program activities are considered prohibitive. (5) State-level planners have little direct control over program implementation of the local level. (6) Lack of carry-over capability forces unplanned end-of-the-year expenditures.

Remedies.

1. Initiate follow-up by social security numbers.

2. Require state education agencies to be accountable by legislating accountability statutes.

3. Evaluate programs by man-hours of instruction rather than by head count.

THE SEVEN ELEMENTS OF PLANNING

As indicated above, there was considerable discussion and some disagreement in the third conference over the sequencing and semantics of the nine objectives. While it was obvious that "a notion of sequence" (927) was inherent in any description of the planning process, and that some of the nine objectives were clearly sequential, it seemed equally clear that others took place concurrently. For example, the generation of a mission statement (Objective 1) precedes all other steps; however, it is hard to divorce consideration of resource allocation strategies (Objective 7) from any assessment of the viability of alternatives (Objectives 5 and 6). Furthermore, some participants felt that the determination of priorities (Objective 3) might accompany, and therefore moderate, all other steps, and that priorities themselves might be moderated as a result of some later decision in Objectives 4 through 9. Although, as one state director noted, "we don't want to get too teacheristic" (937), attempts to describe the planning process by sets of stepwise sub-processes or components were seen to conflict with the dynamic nature of planning and tended also to neglect the effects of feedback. These two concepts were reconciled in the comment of a state director "We are trying to put them [steps] in a logical sequence; but each time you deal with the succeeding step you get more background that helps you deal with the next step, and helps you refine the previous steps" (937).

Attempts to improve the formalized conceptualization of the planning process took up a considerable part of the time in the third conference. It was felt by participants that the word objective as in the "nine objectives" carried with it a connotation of product, while the task of the conference was to look at the <u>process</u> of planning; therefore, the third conference replaced "objectives" with "elements." There was much discussion on the third objective concerning priorities, whether one should prioritize on goals or objectives (906, 943, 944) or whether in fact the concept of priority is continually present at all stages in the process (858). Therefore, finally, the nine objectives were compressed into "seven elements" which were as follows:

1. Mission of state vocational education.

2. Goals, outputs, outcomes, or continuing objectives.

3. The setting of specific objectives.

4. The identification and assessment of alternative strategies for attainment of specific objectives.

5. The establishing of priorities for resource allocation.

6. The development of a process for evaluation of results.

7. The implementation and maintenance of an up-to-date plan.

No attempt was made in the conference to tie in the relatively developed structure of information on deficiencies, causes and their remedies already existing in the nine objectives format. For this reason both formats are included here, and a different model was used around which to construct the main body of this report.

APPENDIX B

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Mr. John E. S. Lawrence

TOTAL CONFERENCE AGENDA

TIME	JANUARY 25,	JANUARY 26,1973
9:00 AM	Introduction	Review Tasks 1 and 2
10:00 AM	Task 1	Tasks 3 and 4
11:00 AM	Task 1	Tasks 3 and 4
12:00 NOON	LUNCH	LUNCH
1:15 PM	Task 1	Business Forms
1:30 PM	Task 1	Task 5
2:30 PM	Task 2	Task 6
3:30 PM	Task 2	Adjourn
4:30 PM	Adjourn	
5:30 - 7:00 PM	Social Hour	

TIME	FEBRUARY 8,	FEBRUARY 9, 1973
9:00 AM	Introduction	Review Tasks 1, 2, 3, & 4
10:00 AM	Task 1	Tasks 3 and 4
11:00 AM	Task 1	Task 5
12:00 NOON	LUNCH	LUNCH
1:15 PM	Task 2	Business Forms
1:30 PM	Task 2	Task 5
2:30 PM	Task 2	Task 6
3:30 PM	Task 3 and 4	Adjourn
4:30 PM	Adjourn	
5:30 - 7:00 PM	Social Hour	

TIME	FEBRUARY 19,	FEBRUARY 20,1973
9:00 AM	Introduction	Review Tasks 1, 2, 3, & 4
10:00 AM	Task 1	Task 5
11:00 AM	Task 2	Task 5
12:00 NOON	LUNCH	LUNCH
1:15 PM	Tasks 3 and 4	Business Forms
1:30 PM	Tasks 3 and 4	Task 6
2:30 PM	Tasks 3 and 4	Task 6
3:30 PM	Tasks 3 and 4	Adjourn
4:30 PM	Adjourn	
5:30 - 7:00 PM	Social Hour	